CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew,

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

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VOL. X.

OF THE THIRD SERIES;

(Or Vol. LXXX. of the Whole Work.)

"Wherefore did nature pour her bounties forth
With such a full and unwithdrawing hand,
Covering the earth with odours, fruits, and flocks,
But all to please and sate the curious taste?"—*Milton.*

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TO

THE REV. M. J. BERKELEY, M.A., F.R.S.,

RECTOR OF KING'S CLIFFE, NORTHAMPTONSHIRE;

A GENTLEMAN EMINENT FOR

HIS KNOWLEDGE OF THE ANATOMY AND PHYSIOLOGY OF PLANTS,

AND FOR THE SERVICES HE HAS RENDERED TO

BOTANY AND HORTICULTURE,

The present Volume is Dedicated,

BY HIS SINCERE AND

FAITHFULLY ATTACHED FRIEND,

W. J. HOOKER.

Royal Gardens, Kew,
December, 1854.

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Fitch. del. et lith.

F.Reeve, imp.

TAB. 4758.

CEROPEGIA THWAITESII.

Mr. Thwaites's Ceropegia.

Nat. Ord. ASCLEPIADEÆ.—PENTANDRIA DIGYNIA.

Gen. Char. (*Vide supra*, TAB. 4349.)

CEROPEGIA *Thwaitesii;* volubilis glabra, foliis petiolatis cordato-ovatis acuminatis tenuibus, racemis 3–5-floris folio longioribus, sepalis subulatis, corollæ tubo infundibuliformi basi inflato-globoso, limbi laciniis oblongis glabris cohærentibus, coronæ staminеæ foliolis externis bipartitis laciniis subulatis pilosis, interioribus lineari-spathulatis erectis glabris exteriora duplo superantibus.

Apparently a new species of the singular genus *Ceropegia*, seeds of which were received at Kew, from Ceylon, sent by our friend Mr. Thwaites, in 1851. The plants flowered in September, 1853, and exhibit many points in common with *C. Cumingiana*, Dcne., figured at our Tab. 4349. The chief difference, as may be expected, lies in the flower: here the corolla being very contracted near the middle of the tube, and at the base singularly and suddenly inflated; the markings and colour of the corolla too, are very different, as is the form of the staminal crown.

DESCR. The whole length of the *plant* before us is between two and three feet, moderately branched; *branches* glabrous, terete, climbing. *Leaves* opposite, on rather long *petioles*, ovate, acuminate, submembranaceous, glabrous, or only slightly ciliated at the margin, penninerved, entire, the *nerves* prominent beneath, and the colour paler there. Young *stem* and *foliage* often tinged with red. *Petioles* nearly an inch long, terete. *Peduncles* axillary, about as long as the *petiole*, and bearing an umbellate *raceme* of three to five *flowers*, which are moderately large, two inches and more long, handsomely marked. *Calyx* of five, subulate, green *sepals*, tipped with red, half as long as the globose

base of the corolla. *Corolla* with the *tube* yellow, infundibuliform, very narrow below the middle, much inflated and almost globose at the base, dilated upwards, and there sprinkled with dark, blood-red spots. *Limb* of five, oblong-ovate, obtuse *segments*, which are erecto-connivent into a cone, concave or grooved at the back, yellow, with a transverse band of dark brown, almost black-purple above the middle, the tips green: *staminal crown* cup-shaped, fleshy; external *folioles* five, erect, bifid, the segments subulate, villous with long hairs; interior of five, erect, linear-spathulate, glabrous ones, twice as long as the outer.

Fig. 1. Corona staminea:—*magnified*.

1.

2.

Fitch, del. et lith.

F. Reeve, imp.

Tab. 4759.

EPIDENDRUM Stamfordianum.

Mr. Stamford's Epidendrum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4107.)

Epidendrum (§ Psilanthemum) *Stamfordianum;* pseudo-bulbis fusiformibus, foliis oblongis obtusis coriaceis basi angustatis, racemo radicali paniculato, sepalis patentibus, petalis duplo angustioribus, labelli tripartiti laciniis planis æquilongis lateralibus oblongis rotundatis intermedia transversa biloba s. emarginata fimbriata.

Epidendrum Stamfordianum. *Bateman, Orchid. Mex. et Guat. t.* 11. *Lindl. Folia Orchid. Epidendr. p.* 28.

Epidendrum basilare. *Klotzsch, in Link et Otto Ic. pl.* 2. *p.* 111. *t.* 45.

In the valuable 'Folia Orchidacea,' now in the course of publication by Dr. Lindley, that author describes no less than 310 species of the genus to which our present species belongs. All are natives of the warmer parts of America, and nearly all are epiphytes. They are divided into twelve groups or sections, and our species will be found in the fifth of these, "Psilanthemum" of Klotzsch, distinguished by the *radical* inflorescence, otherwise unknown in the genus, and the lip adnate to the column, and similar in structure to *Amphiglottium*: it embraces only two known species, our present one, and *E. purpurascens* of Focke. *E. Stamfordianum* is a native of Guatemala, where it was discovered by Mr. Skinner, and of Santa Marta, where it was detected by Mr. Purdie, who sent plants to Kew. It bears large racemes of greenish-yellow, spotted with red, fragrant flowers, which appear with us between February and May.

Descr. Epiphyte. *Pseudo-bulbs* long, slender, fusiform, tapering below into a long jointed stalk, sheathed with scales, which are very large, membranous, pale brown and pointed on the thicker portion of the pseudo-bulb. *Leaves* three to four from the apex of the pseudo-bulb, five to seven inches long, coriaceous, rather obtuse, a little tapering at the base. *Peduncle* arising

from the very base of the stalk of the pseudo-bulbs, among the short, thick, fleshy roots, bearing a compound *panicle* of racemes of numerous, fragrant *flowers*, of moderate size, of a yellow colour, more or less tinged with green, marked, especially on the sepals and petals, with blood-red spots. *Sepals* and *petals* much spreading, all lanceolate and acuminate, rather than acute, the latter the narrowest. *Labellum* with its claw surrounded by and united with the column, the rest spreading, deeply tripartite, bearing two prominent *tubercles* at the base of the disc: side lobes nearly ovate, spotless, middle semiorbicular, spotted, tapering into a claw, rather deeply two-lobed, each lobe half-ovate; all the lobes more or less serrated or fimbriated. *Anther-case* hemispherical, sunk into a toothed clinandrium.

Fig. 1. Labellum. 2. Pollen-masses:—*magnified*.

Fitch, del. et lith.

Tab. 4760.

DICHORISANDRA picta.

Blotch-leaved Dichorisandra.

Nat. Ord. Commelineæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4733.)

Dichorisandra *picta;* foliis lato-ellipticis mucronato-acuminatis subternatim approximatis fusco-maculatis, panicula terminali pluriflora, floribus hexandris dioicis (an semper?), petalis ovalibus obtusis.

Dichorisandra picta. *Hortulan.*

This mottled-leaved *Dichorisandra* has been for some years cultivated in the Royal Gardens of Kew, having been received from Mr. Low, of the Clapton Nursery, under the name we have here adopted, but which we can nowhere find published in books to which we have access, and the species does not appear to be described under any other name. It is very pretty in the spotted and glossy foliage, and the bright purple and white, somewhat fragrant, flowers. These latter are abortive, there being no perfect pistil, and the stamens have scarcely the appearance of perfect ones. The plant requires the heat of the stove, and is presumed to be a native of Brazil.

Descr. Our only *plant* of this is little more than a foot high, slightly branched; the *branches* jointed, short, clothed with brown sheaths. About three *leaves* are near the termination of a branch, approximate: they are four to five inches long, patent or even reflexed, broadly elliptical, their base forming a long sheath (ciliated at the mouth) upon the branch, the apex is suddenly and almost mucronately acuminate, the surface glabrous, full green above, often blotched with brown (which gives rise to the specific name) and marked with remote parallel striæ or veins. The *panicle* is terminal, thyrsoid, on a very short branch (in our plant), having a short peduncle, erect; *peduncle* and *main rachis* downy. *Bracteas* rather small, acuminate. *Flowers* only male

in our plant. *Calyx* (or outer perianth) of three *sepals*, oblong, concave, thin, membranaceous, green, spreading, obtuse. *Petals* three, spreading, oval, obtuse, larger and longer than the sepals, purple-blue, with a very clearly defined and white spot at the very base. *Stamens* six, erect. *Filaments* short, white. *Anthers* approximating into a cone, equal, subulate, blue, longer than the filament, the two cells opening by a single pore at the extremity. *Ovary* abortive, a conical, acuminated body.

Fig. 1. Stamen. 2. Abortive pistil :—*magnified.*

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Tab. 4761.

ANGRÆCUM EBURNEUM.

Ivory Angræcum.

Nat. Ord. Orchidaceæ.—Gynandria Monandria.

Gen. Char. Perianthium patens. *Sepala* et *petala* subæqualia, libera. *Labellum* sessile, cum basi columnæ continuum, carnosum, indivisum, petalis multo latius; *calcare* recto, cornuto, sæpius subcylindraceo perianthio multo longiore, raro obconico. *Columna* nana, subteres, raro elongata semiteres. *Anthera* bilocularis, truncata. *Pollinia* 2, bipartibilia; *caudicula* brevi, angustata; *glandula* triangulari.—Epiphytæ *caulescentes.* Folia *coriacea, ligulata, apice obliqua.* Flores ***solitarii v. racemosi, albi, nunc citrini vel herbacei. Lindl.***

Angræcum *eburneum;* caule simplici, foliis coriaceis lucidis apice obliquis 7–10-striatis, spicis multifloris secundis, labello cordato subrotundo cuspidato basi jugo elevato cristato, calcare sepalo supremo parallelo et dimidio longiore, ovario scabro.

Angræcum eburneum. *Thouars, Orchid. Afr. t.* 65. *Achill. Richard, Orchid. Maurit. p.* 71. *Lindl. Bot. Reg. t.* 1522. *Gen. et Sp. Orchid. p.* 245.

Limodorum eburneum. *Bory, Voy. v.* 1. *p.* 359. *t.* 19. *Willd. Sp. Pl. v.* 4. *p.* 125.

Angræcum superbum. *Thouars, Orchid. Afr. tt.* 62, 63, 64. *Lindl. Gen. et Sp. Orchid. p.* 245.

Aerobion superbum. *Spreng. Syst. Veget. v.* 3. *p.* 716.

It is not possible to render justice to this noble Orchideous plant on a quarto page. All we can do is to give a reduced figure of the entire plant, and a portion of a leaf and of the spike of flowers of the natural size, as they appeared on our specimens at Kew, which we derived from the collection of the late Mr. Clowes. The species is a native of Madagascar and Bourbon, and is yet very rare, we believe, in our stoves. The first plant was imported by the Horticultural Society from the former island, through their collector, Mr. Forbes. The flowers have unfortunately neither colour nor fragrance.

Descr. Our *plant* is about two feet high; the *stem*, except the very base of it, is clothed with large, sheathing, coriaceous, shin-

ing, distichous, striated *leaves*, two inches broad, singularly oblique at the apex, carinate in the lower half. From between the lower leaves many stout radicles descend from the stem. *Peduncle* arising from near the base of the stem, jointed, sheathed with scales, bearing a *spike* of very large green and white *flowers*, which overtops the longest leaves. These *flowers* are distichous rather than secund, and are placed alternately back to back, with the apices of their labella all pointing one way. *Sepals* and *petals* very much spreading, green, lanceolate. *Labellum* very large, broadly cordate, ivory-white, thick and fleshy in texture, concave in the centre, and bearing there an elevated cleft ridge, the apex is suddenly but shortly acuminated. *Column* very short, thick, greenish-white, bearing a hemispherical anther, firmly attached to its clinandrium*. *Pollen-masses* two, bipartite, yellow, broad, cuneate, waxy, approximate, with a narrow *caudicle* arising from a large, canaliculate, triangular *gland*. *Stigma* quite sunk in a hollow, and concealed beneath the clinandrium.

The plate represents an entire plant, on a very reduced scale, the apex of a leaf, and the chief portion of a spike:—*nat. size*. Fig. 2. Pollen-masses:—*magnified*.

* Dr. Lindley observes on this structure, and that of the concealed stigma, "This plant offers a striking instance of the precaution which Nature seems to have taken, to prevent direct contact between the pollen and the stigmatic surface, and at the same time of the skilful means by which an indirect communication is substituted, so that no impediment may in reality exist to the process of fertilization, notwithstanding the apparent obstacles to its taking effect. The pollen is locked up in an anther, so firmly united to the top of the column, that nothing but actual force can remove it; while the stigma is situated upon the face of the column, far beyond the reach of contact with the pollen. To establish the requisite communication, a narrow slip of the top of the column, proceeding from the edge of the stigma to beneath the anther, gradually separates from the surrounding tissue: the face of the anther opens along the middle of the cells, contracts, and allows the pollen-masses to glue themselves to the narrow slip, which is the caudicula; at the same time, while this operation has been in progress, a triangular portion of the front of the edge of the stigma has been adhering to the caudicula, and thus establishes the direct communication which is required, afterwards separating, with the caudicula, under the form of the gland."

Fitch, del et lith.

F Reeve, imp.

Tab. 4762.

ALLOSORUS FLEXUOSUS.

Zigzag Allosorus.

Nat. Ord. Filices.—Cryptogamia Filices.

Gen. Char. (*Vide supra*, Tab. 4698.)

Allosorus *flexuosus*; scandens, fronde ampla divaricato-tripinnata, pinnulis alternis remotis cordato-ovatis obtusis glabris longiuscule petiolulatis, rachi communi flexuosa, secundaria angulato-flexuosa, soris ad marginem utrinque continuis, caudice repente.

Allosorus flexuosus. *Kaulf.* "*Ind. Fil. MS.*" *Kunze, Adit. Enum. Fil. Mexic. in Linnæa, v.* 13. *p.* 136. *Kunze, in Schkuhr, Fil. Suppl. p.* 46. *t.* 23.

Pteris flexuosa. *Kaulf. MS. Linnæa, v.* 5. *p.* 614. (*excl. syn.*) *Hook. Ic. Plant. v.* 2. *t.* 119.

Pteris cordata. *Link, Hort. Berol. v.* 2. *p.* 27. (*excl. syn.*)

Platyloma flexuosa. *J. Smith, Enum. Fil. in Bot. Mag. v.* 72. *comp. p.* 21.

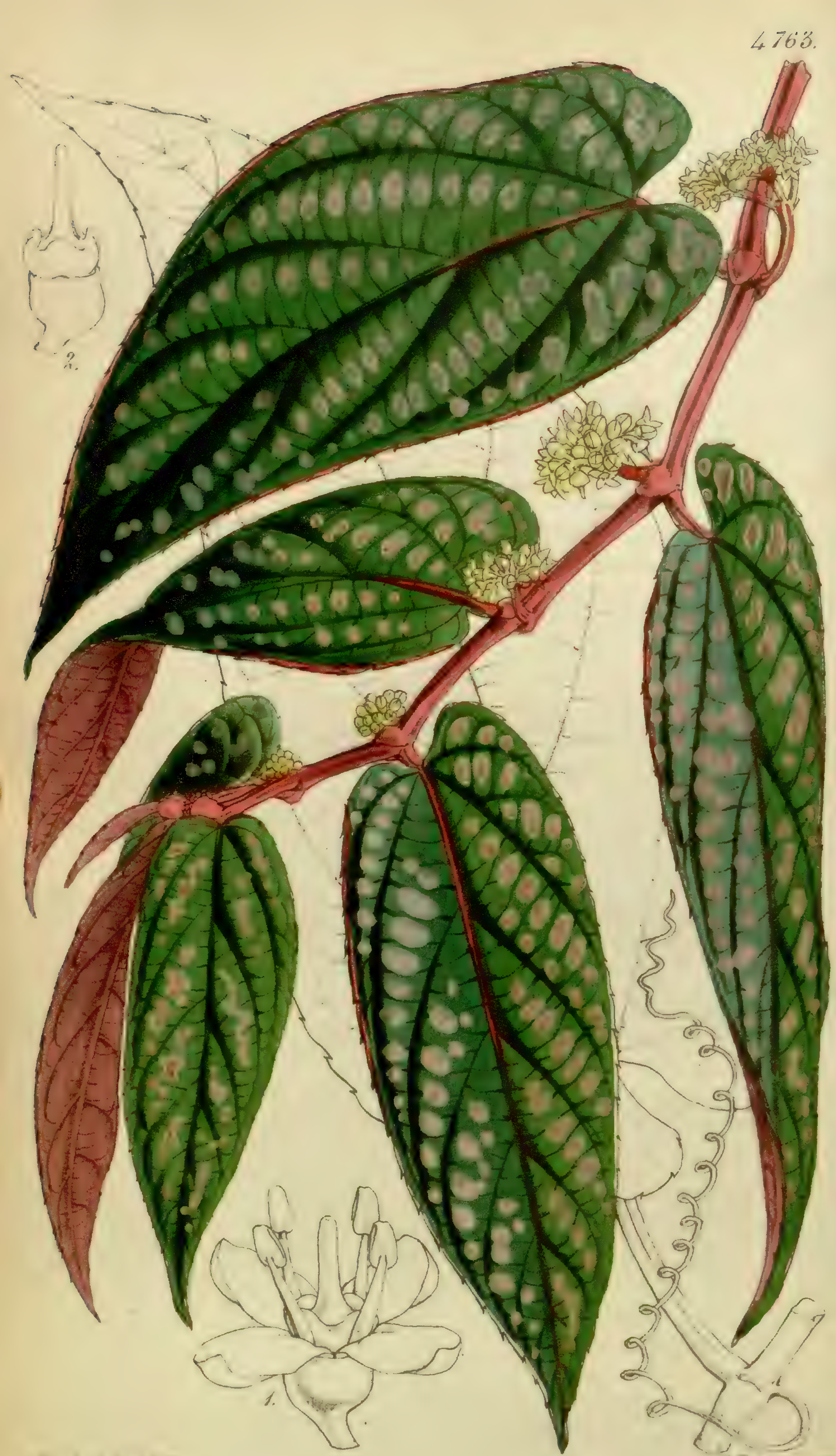
Pellæa flexuosa. *Fée, Gen. Fil. p.* 129.

A graceful scandent, but we should scarcely call it, as Kunze does, a "twining" Fern; having assuredly its pinnules very much resembling those of *Allosorus cordatus*, figured at Tab. 4698 of our last volume: nor can we point out any specific difference, but that the latter has an erect habit, while this is flexuose in the main rachis, and quite zigzag in the secondary ones. For the character of the genus *Pellæa*, M. Fée places reliance on the colour, etc., of the stipites and principal nerves, black and shining, etc., as in *Adiantum*; whereas his first species (the same as ours) and his second, or *Pellæa sagittata*, are peculiarly pale, almost straw-coloured, in the stipites and principal nerves. It is a native of Peru and Mexico, and flourishes in a temperate Fern-house, requiring support in its cultivation.

Descr. Our *plants* are from four to five feet long; the rather short *stipes* and main *rachis* being flexuose, more or less downy, with soft patent hairs; secondary rachises, or branches, long and straggling, often pendent or refracted, these are glabrous, or scarcely downy, singularly zigzag or angulato-flexuose, bearing

the ultimate rachises at the angles, and these generally are pinnated with from three to five cordato-ovate, coriaceous, obtuse, petiolated pinnules; the margin entire; the surface glabrous, or rarely subpubescent; the veinlets several times forked. The *petioles* are moderately long. The *involucre* is continuous along the two sides of the pinnule, reflected, apparently formed of its substance, but paler and more membranaceous, quite entire and covering the sorus, which is equally a continued line of capsules, whose origin however appears to be from the apices of the veinlets; but this is a point very difficult of determination. If in a pteroid Fern the receptacle of the *capsules* occupies a considerable length on the terminal veinlets, we have then the *Platyloma* of Mr. J. Smith (*Adiantum paradoxum* of Mr. Brown); but such can hardly be said of the present species, which is likewise called by him *Platyloma;* the additional character, applied equally by Mr. J. Smith (as by M. Fée, to his *Pellæa*), of the ebeneous stipes and rachis, does not hold good here, as is above observed.

Fig. 1. Fertile pinnule, seen from beneath. 2. Portion of a fertile pinnule, with the involucre raised to show the sorus :—*magnified*.



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Tab. 4763.

CISSUS discolor.

Two-coloured Cissus.

Nat. Ord. Ampelideæ.—Tetrandria Monogynia.

Gen. Char. Calyx liber, brevissimus, obsolete quadri- v. rarissime quinquelobus. *Corollæ petala* 4, rarissime 5, disco hypogyno extus inserta, æqualia, concava, apice cucullata, æstivatione induplicatim valvata, sub anthesi patentia, decidua. *Stamina* 4 v. rarissime 5, cum petalis inserta, iisdem opposita; *filamenta* brevia; *antheræ* biloculares, incumbentes, longitudinaliter dehiscentes. *Ovarium* liberum, disco plus minus immersum, biloculare. *Ovula* in loculis gemina, collateralia, e basi dissepimenti adscendentia, anatropa. *Stylus* brevis; *stigma* capitatum. *Bacca* uni-bilocularis, abortu mono-disperma. *Semina* erecta, testa ossea, epidermide membranacea. *Embryo* in axi albuminis dense carnosi minimus, orthotropus; *radicula* infera.—Frutices *sarmentosi, scandentes, rarissime* arbores, *inter tropicos totius orbis, imprimis tamen Asiæ crescentes, in subtropicis multo rariores;* foliis *alternis, stipulatis, simplicibus v. compositis, pedatis v. rarius pinnatis bipinnatisve, sæpe pellucido-punctatis, petiolatis,* petiolo *basi articulato;* ramis *floriferis oppositifoliis v. rarissime axillaribus, sterilibus in cirrho conversis;* floribus *cymosis, sæpissime ad apicem ramulorum umbellatis, umbellis involucratis, pedicellis basi articulatis. Endl.*

Cissus *discolor;* caule scandente angulato, foliis cordato-oblongis acuminatis serratis subtus intense purpureo-rubris supra albo-maculatis, stipulis ovatis, pedunculo petiolo subæquilongo, cymis subtrifidis.

Cissus discolor. *Blume, Bijdrag. v.* 1. *p.* 181. *Hasskarl, Cat. Plant. Bogor. p.* 166. *Walp. Repert. Bot. v.* 1. *p.* 437.

Few plants can be less attractive in the flowers than the *Cissus* here represented, but assuredly none more lovely in the foliage. Its native country is Java; but it has now for some few years been cultivated in the warm stoves of this country, where, trained in a good-sized pot, around a number of small sticks for support, it is sure to attract attention by the bright velvety green of the upper side of the foliage, spotted or mottled with white, the deep red purple of the underside, and the coral-red of the branches. The flowers are produced in September. We are indebted for our plants to Messrs. Jackson, nurserymen, of Kingston, Surrey.

Descr. *Stems* and *branches* twining; the latter bright red,

zigzag, angled. *Leaves* rather closely placed, alternate and distichous, the lower and larger ones on rather long *petioles*, the upper smaller ones almost sessile; all cordato-oblong, acuminate, glabrous (as is every part of the plant), penniveined, serrated, the serratures purple; the veins connected by transverse veinlets, prominent beneath; the colour of the upper side deep velvety green, blotched or spotted with white, the spots lying in oblique lines between the primary veins, beneath deep red-purple. *Stipules* rather large, opposite, ovate, obtuse, somewhat fleshy, red. *Tendrils*, when present, arising from a point directly opposite to the insertion of the petiole, simple. *Peduncles* about as long as the petioles, opposite the leaves, reddish, bearing a rather small ternately divided *cyme* of greenish white *flowers*. *Calyx* hemispherical, truncated. *Corolla* of four ovato-oblong, obtuse, concave *petals*, inserted at the base of a large, fleshy, pale yellow, four-lobed ring. *Stamens* four, inserted at the base of the petals, and opposite to them. *Filaments* subulate, erect. *Anthers* ovate. *Pistil* sunk in the fleshy disc or ring, tapering upwards into a short thick style. *Stigma* obtuse.

Fig. 1. Flower. 2. Pistil and calyx:—*magnified*.

Fitch, del. et lith.

F. Reeve, imp.

Tab. 4764.

AMOMUM Danielli.

Bastard Melligetta.

Nat. Ord. Zingiberaceæ.—Monandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4603.)

Amomum *Danielli;* glabrum, caule elongato folioso, foliis oblongo-lanceolatis tenui-acuminatis striato-venosis, scapis radicalibus floriferis 2 unc., fructiferis 4–6 unc. longis 3–5-floris, bracteis oblongo-cymbiformibus obtusis, corollæ coccineæ lobis lateralibus patentibus lanceolato-acuminatis dorsali amplo obovato-oblongo cæteris longiore, labello late obovato-subspathulato albo flavo roseoque picto patente margine undulato-crispato, filamento basi utrinque appendicula subulata aucto, fructu lineari-ampullaceo rostrato.

Amomum Danielli. *Hook. fil. in Journal of Bot. v.* 4 (1852). *p.* 129. *tab.* 5 (*in Tab. under the name of* A. Afzelii).

We have taken infinite pains with our correspondence in tropical Western Africa, to endeavour to procure authentic information respecting the *Amomums*, or *Melligetta Peppers*, as they are usually called, of that coast. At our Tab. 4603 of this Magazine, we had the satisfaction of publishing a figure and description of the *Amomum Grana-Paradisi* of Linnæus; and now we are able to illustrate another kind, of which till lately nothing had been known but by the figure given at page 1138 of vol. ii. of the late Dr. Pereira's 'Elements of Materia Medica,' the specimen of which he received from Dr. Daniell under the name of "Bastard Melligetta." That able author thought it might prove to be the *Amomum Clusii* of Sir J. E. Smith, in Rees's Cyclopædia; but, as Dr. Hooker has shown, in the 'Journal of Botany,' that is a point impossible to be determined by the description given in that work, and it is *not* the fruit so named of Sir James Smith's collection at the Linnean Society. The present species is a native of the Gold and Slave Coasts, and about Clarence Town, in Fernando Po. The natives call it "*Bassalo.*" With us it requires the heat of a moist stove; and it is a highly ornamental

plant, richly coloured in the scales and bracts of the lower part of the stem and of the scapes, and in the large, handsome, orchideous-like flowers. We may observe, that the leaf figured in the 'Journal' is much larger than any upon our growing plant. It may be a luxuriant state, or it may be the leaf of another kind, supposed to belong to the same by Dr. Daniell; for of this the flowers not unfrequently appear before the leaves, and then collectors cannot be too careful to see that the leaves and flowers, and fruit too, all belong to the same species.

Descr. The *stems*, two feet or more long, grow clustered and branching, with suckers, at the root; scaly below, with large, reddish, imbricating, membranaceous *scales*. *Leaves*, the largest of them in our plants scarcely a span long, oblong-lanceolate, sharply acuminated, striated with oblique parallel nerves. The short *scape* proceeds from the very base of the stems, and is sheathed with large, red, boat-shaped *scales*, from within which appear in succession from three to five *flowers*. These latter are large and richly coloured; the three outer *sepals* fine red; the spreading *labellum* whitish, tinged with rose-colour and yellow.

Fig. 1. Ovary and inner scales:—*magnified*.

Fitch del. et lith.

F. Reeve imp.

Tab. 4765.

CHEILANTHES FARINOSA.

Mealy Cheilanthes.

Nat. Ord. Filices.—Cryptogamia Filices.

Gen. Char. Sori subglobosi, marginales, plerumque dente vel lobulo demum reflexo frondis marginis siti. *Involucrum* primum plerumque punctiforme, semi-orbiculare v. reniforme v. oblongum, e dente v. lobulo textura fere frondis formatum, v. membranaceum et diaphanum, integrum, fimbriatum v. ciliatum, magis minusve confluens, non raro continuum : nunc rarius subintramarginale.—Filices *tropicæ vel extratropicæ, plerumque parvæ, rhizomatosæ, vel radice cæspitosa.* Frondes *cæspitosæ, glabræ vel pilosæ, lanuginosæ vel squamosæ, raro simpliciter pinnatæ, plerumque bi-tripinnatæ vel varie pinnatifidæ.* Pinnulæ *laciniæve parvæ.* Stipites *rachidesque plerumque ebeneæ.* Venulæ *furcatæ, liberæ, apicibus unisorosis.*

Cheilanthes *farinosa;* radice cæspitosa, stipitibus elongatis ebeneis inferne squamosis, frondibus subcoriaceis spithamæis et ultra deltoideo-ovatis lanceolatisve glabris pinnatis apice acuminatis pinnatifidis subtus albo-pulverulentis, pinnis sessilibus inferioribus subsemideltoideis basi bipinnatifidis, involucris suborbicularibus scariosis non raro confluentibus undulato-lobatis marginibus integris v. erosis.

Cheilanthes farinosa. *Kaulf. Enum. Fil. p.* 212. *Hook. et Grev. Ic. Fil. t.* 134. *Hook. Gen. et Sp. Fil. v.* 2. *p.* 77.

Pteris farinosa. *Forsk. Fl. Ægypt. Arab. p.* 187. *Vahl, Symb. v.* 3. *t.* 75. *Sw. Syn. Fil. p.* 105.

Cheilanthes dealbata. *Don, Prodr. Fl. Nep. p.* 16. *Wall. Cat. n.* 71 (*excl. sub num.* 4). *Schimp. in Herb. It. Abyss. n.* 1123. *Kunze in Linnæa, v.* 24. *p.* 271.

Pteris argyrophylla. *Sw. Syn. Fil. p.* 105.

Pteris argentea. *Bory.*

Pteris decursiva. *Forsk. et Sw.*

Cassebeera farinosa. *J. Sm. Cat. of Ferns in Kew Gard. Comp. Bot. Mag.* 1846, *p.* 20.

Aleuritopteris farinosa. *Fée, Gen. Fil. p.* 153. *t.* xii. *B. f.* 1. (*sori distinct.*)

Aleuritopteris dealbata. *Fée, Gen. Fil. l. c. f.* 2. (*sori confluent.*)

An extremely pretty Fern, with glossy ebeneous stipites and rachises, dark green above, clothed beneath with a pure white and powdery substance. It is a native of Arabia, Abyssinia, of

the mountain districts of India generally, extending to Java and the Philippine Islands. Our specimens from Galeotti (n. 6551*), gathered at Oxaca, in Mexico, seem in no way different from that here figured. A plant of such widely extended locality, and a good deal variable in its involucres, has occasioned a great number of synonyms, which we have taken infinite pains to unravel. It flourishes in a pot in a temperate greenhouse.

Descr. *Roots* tufted. *Stipites* two to four inches long, black, glossy, scaly below. *Fronds* tufted, from a finger's length to a span long, subcoriaceous, deltoideo-ovate or sublanceolate, acuminate, pinnated, pinnatifid at the apex, dark green above, glabrous and naked, white and powdery beneath. Lower pair of *pinnæ* remote, half-deltoid, bipinnatifid. Inferior segments of the base much longer than the opposite one. The rest of the pinnæ are simply pinnatifid, with the segments oblong, obtuse, rarely crenate. *Sori* subglobose, on little lobules, of which the margins are involute, and form the scariose suborbicular involucres: these are sometimes free and rather distant, usually more or less combined, and with the edges crisped or erose.

* The same author's n. 6442 (his *Cheilanthes candida*) is a different plant, and, judging from his figure, a *Nothoclæna*.

Fig. 1. Back of a fertile segment. 2. Underside of a fertile segment:—*magnified*.

F. Reeve, imp:

Tab. 4766.

WARREA QUADRATA.

Fragrant Warrea.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Flores subglobosi, subregulares, mento brevi rotundato. *Labellum* continuum, indivisum, lineis elevatis carnosis in medio. *Columna* semiteres, clavata. *Pollinia* 4, per paria in caudiculam brevem linearem inserta, *glandula* triangulari.—Herba *terrestris, pseudo-bulbosa*. Folia *arundinacea*. Scapus *radicalis apice racemosus* (*v. uniflorus*). Flores *speciosi. Lindl.*

Warrea *quadrata;* labelli lobo medio orbiculari retuso lateralibus semiovatis conniventibus, appendice carnosa subquadrata sulcata apice obtuse tridentata. *Lindl.*

Warrea quadrata. *Lindl. in Gard. Chron.* 1853, *p.* 647.

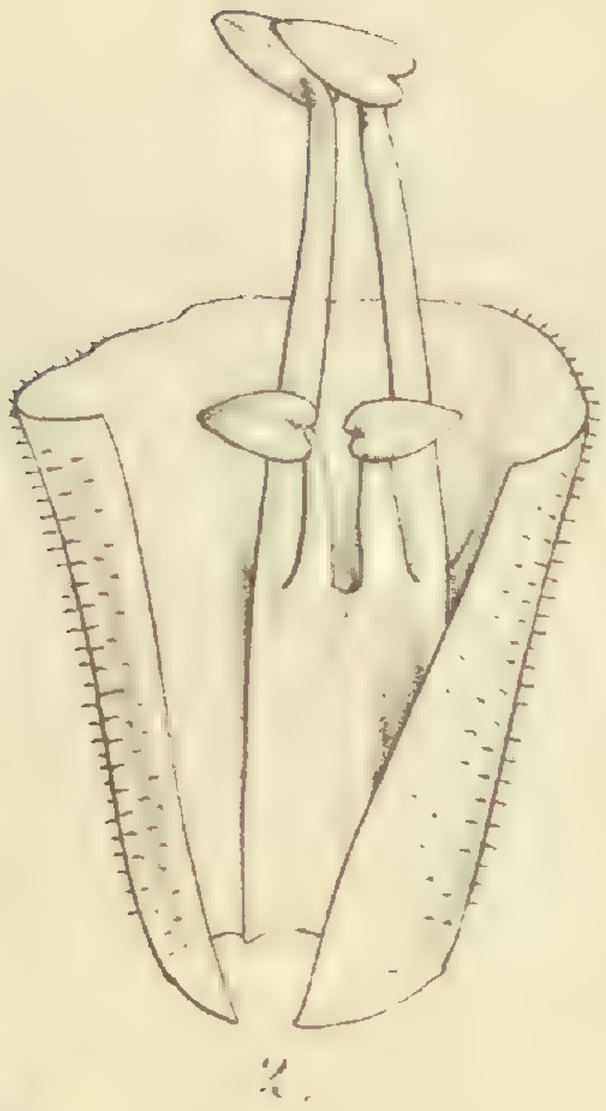
The only notice we have of this rare Orchideous plant is in the 'Gardeners' Chronicle,' above quoted, where Dr. Lindley has described the plant from the garden of Messrs. Jackson, of Kingston, from whose collection our plant was received (the plant here figured) in November of the same year. It has a very peculiar habit; the flowers are large and fragrant; and the species is said to be a native of Central America, introduced by Mr. Warszewicz to our stoves. Dr. Lindley notices its affinity with *Warrea discolor*, "both in habit and general form. The flowers however are larger and more fleshy, with no purple but in the centre and upper half of the lip. It is essentially known by the appendix at the base of the lip being nearly square, about three-toothed in front, and deeply furrowed; that of *W. discolor* is uniformly digitate in all the specimens I have seen."

Descr. *Pseudo-bulbs* apparently none in our plant. From a few large, fleshy, fibrous *roots*, a cluster of *leaves* rises nearly erect, a span or more long, very obscurely veined, oblong, shortly but narrowly acuminated, plain or slightly carinate, jointed upon a narrowed but conduplicate base: there a few brownish scales at the base of these leaves. *Scapes* radical, from within the leaves, but shorter than the leaves, erect, with

two or three sheathing scales at the base, bearing a single inclined or drooping, large, sweet-scented *flower*. *Sepals* white, or very pale greenish straw-colour, lanceolate; the lateral ones singularly reflexed and twisted. *Petals* of the same colour, ovato-lanceolate, recurved. *Lip* very large, projecting, between orbicular and obovate, three-lobed, the lateral lobes ovate, obtuse, involute, middle lobe very broad retuse: the *colour* is white, with a broad purple margin, and a few purplish streaks on the disc. At the base is a large, shield-like, nearly square *disc*, radiated with a few furrows, and streaked with purple, the edge emarginate, with three obscure teeth at the apex. *Column* short, covered by the side-lobes of the labellum, white.

Fig. 1. Labellum. 2. Column. 3. Pollen-masses:—*magnified.*

Note.—At our Tab. 4759, for "Mr. Stamford's Epidendrum," read "Earl of Stamford's Epidendrum." At the time the description was drawn up, we had not access to our copy of Mr. Bateman's *Orchideæ* of Mexico and Guatemala, where alone, as far as we know, the explanation of the name is given.



3.

Tab. 4767.

GOLDFUSSIA GLOMERATA; VAR. *speciosa*.

Clustered Goldfussia; showy-flowered var.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx 5-partitus, subæqualis. *Corolla* infundibuliformis, limbo 5-fido obtuso æquali. *Stamina* inclusa, didynama, hexmiliora sæpe brevissima, reflexa. *Antheræ* nutantes; loculi in connectivo uncinato glanduloso obliqui, ovati, membranacei. *Stigma* simplex, subulatum, altero latere crenatum, irritabile. *Capsula* 6-angularis, 2-valvis, a dissepimento facile solubilis, loculis inferius 2-spermis. *Semina* discoidea, retinaculis subtensa.—Frutices *Indiæ orientalis*, foliis *serratis penninervibus, curvinervibus, nervis omnibus apicem petentibus, nec vero attingentibus*. Flores *pauci in capitulo, bibracteolati, bracteis deciduis, rarius spicatis;* spica *post delapsas bracteas magis elongata*. Capitula *pedunculata, pedunculo simplici vel diviso. DC.*

Goldfussia *glomerata;* caule fruticuloso hirsuto, foliis inæqualibus, altero ovato cuspidato inæqualiter dentato-crenato multiplinervi, altero multo minore ovato-subrotundo, basi obtusis valde inæqualibus spicisque axillaribus oppositis solitariis globosis brevissime pedunculatis hirsutis, bracteis lanceolatis integerrimis, interioribus capitulum æquantibus. *Nees.*

α. *floribus pallide lilacinis.*

Goldfussia glomerata. *Nees in Wall. Pl. Asiat. Rar. v.* 3. *p.* 88. *Hook. Bot. Mag. t.* 3881. *Nees in De Cand. Prodr. v.* 11. *p.* 173.

Ruellia glomerata. *Wall. Cat. n.* 2361 *bis.*

β. floribus purpureis speciosis. (Tab. Nostr. 4767.)

We received this plant from the Botanic Garden at Mauritius, under the name of *Ruellia glomerata* (now *Goldfussia*), which species is a native of Silhet, according to Wallich, and is figured at Tab. 3881 of this Magazine, with pale greyish-lilac flowers, as they appeared at the Botanic Garden of Edinburgh in 1841. Our present plant, nevertheless, we believe to be the same species, but possessing the advantage of really fine, showy flowers, of a full, if not bright purple, and there is a rich tinge, too, upon the foliage, occasioned by the copious ferruginous hairs. It is treated with us as a stove-plant, and flowers in November.

February 1st, 1854.

Descr. *Plant* a foot to eighteen inches high, erect, branched; *branches* knotted at the joints, nearly terete, clothed, as well as the leaves and all the herbaceous part of the plant, with spreading, ferruginous hairs, most copious on the young foliage. *Leaves* on rather short *petioles*, opposite, very unequal in size; one of each pair large, ovate, acuminate; the opposite one very much smaller and subrotund; all of them are strongly and somewhat duplicato-serrate, and very unequal at their base. *Peduncles* solitary, axillary, bearing a somewhat capitate cluster of three to five bracteated *flowers*, one of each cluster only opening at a time. Outer *bracteæ* concealing the flower-buds and calyces of the fully-expanded flowers, linear-lanceolate, coarsely serrated, erecto-patent. Calycine *bracteas* two, opposite, erect, more than half as long as the calyx, entire. *Calyx* deeply cut into five erect, lanceolate, almost hispid segments, somewhat unequal. *Corolla* large, handsome, deep purple. *Tube* between cylindrical and funnel-shaped. *Limb* oblique, large, of five nearly regular, subrotund, emarginate, and crisped spreading *lobes*. *Stamens* quite included within the tube, two long and two short: all four have oblong-ovate, one-celled, perfect anthers. *Ovary* oblong-cylindrical, seated on a large, fleshy, orange-coloured *disc*. *Style* very long, curved. *Stigma* subulate.

Fig. 1. Calyx and its bracts. 2. Stamens. 3. Pistil:—*magnified*.

2.
1.

Tab. 4768.

SCOLOPENDRIUM Krebsii.

Pinnated Hound's-Tongue.

Nat. Ord. Filices.—Cryptogamia Filices.

Gen. Char. Sori lineares, oppositi, inferior in venula superiore, superior in venula proxima inferiora. *Involucrum* lineare, planum, marginibus liberis oppositis contiguis aut distantibus. *Venæ* pinnatæ, internæ, uni-bifurcatæ, venulis parallelis apice libero in punctum incrassato aut acuto terminatis.—Rhizoma *subrotundum aut repens.* Frondes *fasciculatæ, subcoriaceæ, simplices, integerrimæ vel lobatæ, nunc pinnatæ.*

Scolopendrium *Krebsii;* stipitibus fasciculatis brevibus crinitis, frondibus subcoriaceis lato-lanceolatis acuminatis pinnatis glabris subtus nunc minute punctatim squamulosis, pinnis approximatis sessilibus e lata basi utrinque auriculatis oblongo-lanceolatis acuminatis subsinuatis, infimis remotis deltoideis reflexis, involucris oblongo-linearibus margine minute ciliatis.

Scolopendrium Krebsii. *Kunze, in Linnæa, v.* 18. *p.* 118. *Fée, Gen. Fil. p.* 209.

Onychium Krebsii. *Kunze, in Linnæa, v.* 10. *p.* 594.

A native of South-eastern Africa, about Graham's Town and Natal, whence we have received original specimens from the late Professor Kunze, gathered by M. Krebs and by M. Gueinzius. The general aspect is so unlike that of our own *Scolopendrium* (*vulgare*), having more the habit of *Nephrolopis*, or some other aspidioid plant, that, without a careful inspection of the fructification, few would suspect it to be of this genus. Kunze indeed, in the first instance, described it as an *Onychium;* and even in his figure of the species as *Scolopendrium Krebsii*, he introduces a frond with the sori forming two almost uninterrupted lines, parallel with, and close to, the midrib: thus noticed by Fée,—"*S. Krebsii* (ex Kunzio) sporothecia biformia producit, aliis sporothecia *Scolopendrii*, aliis *Lomariæ* sporothecia referentibus;"—but to me this sort of fructification more resembles that of a *Doodia* or *Woodwardia.* The figure probably belongs to some very different Fern. The species requires a temperate greenhouse for its successful cultivation.

February 1st, 1854.

Descr. From an underground, thick, oblique *rhizome*, the short, green, succulent *stipites* arise, in a tufted form, and are crinite with brown, subulate, shining *scales*. *Fronds* a foot or more long, erect, broad-lanceolate, acuminate, subcoriaceous, glabrous, pinnated, the apex pinnatifid. *Pinnæ* approximate (except the lowest ones, which are small, deltoid, and reflected), spreading, sessile from a broad base auriculated on each side, oblong-lanceolate, acuminate, beneath often dotted with exceedingly minute deciduous scales, costate; *veins* pinnated, forked, the apex clavate, terminating just within the margin. *Sori* broad-linear, in pairs. *Involucres* of the same shape, in pairs, opening towards each other, ciliated at the margin, one of each pair arising from the superior side of a superior branch of a fork, the opposite one from the lower side of the branch of the fork next above it.

Fig. 1. Portion of a fertile pinna, seen from beneath :—*magnified*. 2. Smaller portion of a fertile pinna :—*more magnified*.

4769.

2.

Tab. 4769.

ALLOSORUS calomelanos.

Deltoid-leaved Allosorus.

Nat. Ord. Filices.—Cryptogamia Filices.

Gen. Char. (*Vide supra*, Tab. 4698.)

Allosorus *calomelanos;* frondibus cæspitosis subcoriaceis (ramis simpliciter pinnatis) oblongo-triangularibus bipinnatis, pinnulis omnibus petiolulatis cordato- (raro subhastato-) triangularibus obtusissimis integerrimis nunc subtrilobis sinuatisve, sinu angusto profundo, venis dichotome radiatis, soris marginalibus continuis, involucris membranaceis, stipitibus breviusculis basi paleaceis rachibusque omnibus gracilibus atro-ebeneis nitidis.

Allosorus calomelanos. *Presl, Tent. Pterid. p.* 153.

Pteris calomelanos. *Swartz, Syn. Fil. p.* 106. *Willd. Sp. Plant. v.* 5. *p.* 393. *Schlecht. Adumbr. Fil. Cap. p.* 43. *t.* 24.

Pteris hastata. *Thunb. Cap. ed. Schultes, p.* 733.

Platyloma calomelanos. *J. Sm. in Comp. to Bot. Mag.* 1846. *p.* 21.

Pellæa calomelanos. *Link, Fil. Hort. Berol. p.* 61. *Fée, Gen. Fil. p.* 129.

Professor Kunze observes of this Fern, "Planta distinctissima, notissima, habitu quodammodo a genere (*Pteride*) discedit; sed neque ad *Allosorum*, neque ad *Cheilanthem* pertinet, et veros *Pteridis* characteres offert." Whatever may be the views of botanists with regard to the separation of *Allosorus* from *Pteris*, there can be no question of this Fern belonging to the same group of *Pterideæ*, with what Kunze himself has considered true *Allosori; A. cordatus* (see our Tab. 4698) and *A. flexuosus* (our Tab. 4762) for example. Generically those plants never can be separated. Then again those who are most united in pronouncing those two genera distinct, are quite at variance as to the name that should be given to the majority of the so-called *Allosori* of Presl. The group in question is named *Platyloma* of J. Smith, and he confines the name *Allosorus* to Mr. Brown's genus *Cryptogramma*, which undoubtedly the author of "*Allosorus*" (Bernhardi) included in it, but mixed with other Ferns so widely

different in habit and character, that M. Fée throws the name aside altogether, and adopts Link's *Pellæa* for the mass of *Allosorus* of Presl. Our present plant is a native of the Cape of Good Hope, in mountainous districts, growing in rocky places, at elevations above the level of the sea varying from 500 to 4000 feet, according to Drège. It is an elegant and graceful Fern, with fronds of a delicate bright green, and glossy ebeneous stipites and rachises. It requires protection from the frost, and flourishes in a cool greenhouse, with a northern aspect.

Descr. *Roots* tufted. *Stipites* several from one point, two, four, or five inches long, ascending or erect, the base woolly, with copious, curly, paleaceous scales; the rest black, ebeneous, as are all the rachises, and slender. *Fronds* bipinnated (rarely simply pinnated, with three or five pinnules), triangular-oblong, subcoriaceous, bright clear green; primary pinnæ distant; *pinnules* subapproximate, often imbricating, rather large, triangulari-cordate, very obtuse, sometimes approaching to hastate or three-lobed, and sometimes sinuated, all with a deep sinus at the base, and petiolulated: *veins* all radiating from the sinus, numerous, two or three times dichotomous; *sori* narrow, continuous roun d the margin. *Involucre* entire, pale, membranaceous.

Fig. 1. Fertile pinnule, seen from beneath:—*magnified.* 2. Portion of a sorus:—*more magnified.*

4770.

2

Fitch, del et lith.

F. Reeve, imp.

Tab. 4770.

PITCAIRNIA muscosa.

Hoary Pitcairnia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4241.)

Pitcairnia *muscosa;* foliis linearibus recurvatis acuminatis integerrimis inferne carinatis supra demum glabris subtus cauleque folioso cinereo-tomentosis, racemo simplici, bracteis subulatis pedicellos subæquantibus, floribus approximatis rubris, calycibus coloratis, petalis subgaleatis basi nudis.

Pitcairnia muscosa. *Martius, Fl. Bras. ined. Schultes, Syst. Veg. v.* 7. *p.* 1240.

Received from the Imperial Gardens of St. Petersburg, under the name here retained; for it seems to be identical with that species, published in the last volume of 'Schultes' Systema Vegetabilium,' in which case it is a native of Brazil, Serra de Piedade, Province of Minas Geraes, Brazil. It requires the heat of the stove, grows in tufts, and, being a free winter flowerer, it enlivens the shelf with its red blossoms in mid-winter, its flowering season with us being the month of December. It is perhaps the smallest species of the genus yet known in cultivation.

Descr. Several plants grow together in a tufted manner. The *leaves* are principally radical, the longest of them nearly a span in length, linear, much and finely acuminated, quite entire, subcoriaceous, recurved, carinated in the lower half, when young all over downy, the adult ones glabrous and dark green above, below woolly, with a whitish or pale grey down or scurf. *Stem* about twice as long as the longest leaves, erect, not so thick as a writing pen, very woolly, terete, sparingly leafy, with the leaves gradually smaller, and more bracteiform upwards, so as to pass into erect *bracteas*, of which those at the base of the pedicels are about equal in length to the pedicels. *Racemes* erect, six, ten, or twelve-flowered. *Pedicels* erect, a little more than half an inch long. *Flowers* erect, or nearly so, two inches long, red. *Calyx* of three lanceolate *sepals*, erect, red, tipped with green,

nearly half as long as the corolla. *Corolla* of three linear, convolute, oblique *petals*, so arranged as that the upper portions form a sort of helmet on the anthers, destitute of scale at the base within. *Stamens* six, nearly as long as the petals. *Filaments* and linear *anthers* white. *Ovary* oval, with three longitudinal furrows. *Style* as long as the *stamens; stigma* of three linear, spirally-twisted lobes.

Fig. 1. Petal. 2. Pistil:—*magnified.*

Tab. 4771.

EXACUM macranthum.

Large-flowered Exacum.

Nat. Ord. Gentianeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4340.)

Exacum *macranthum*; caule teretiusculo subsimplici, foliis sessilibus elliptico-lanceolatis basi apiceque magis minusve attenuatis trinerviis, calycis 5-partiti segmentis ovato-lanceolatis acuminatis, alis semisubulatis, corollæ intense purpureæ lobis late ovatis acuminatis, antheris in conum conniventibus, stylo declinato.

Exacum macranthum. *Arn. in Ann. des Sc. Nat. v.* 11. *p.* 175. *Griseb. Gent. p.* 111. *in De Candolle Prodr. v.* 9. *p.* 46.

For our first knowledge of this most lovely gentianoid plant we are indebted to the late Mrs. General Walker, who communicated specimens to us from the mountains of Ceylon, elevation 6000 feet, and we owe the possession of it in our gardens to our valued friend Mr. Thwaites, who sent the seeds from Ceylon about two years ago, to Kew and to Dublin. Mr. Moore, of the Glasnevin Botanical Garden, Dublin, was so good as to forward a living flowering plant to us in December, 1853, from which our present drawing and description are made. The flowers bear no small resemblance to those of the well-known *Solanum Amazonicum* (*Nycterium*, Ker), especially in the connivent stamens and declinate style; but the colour of the flower is a much deeper and richer purple. The bright stamens are well set off in contrast with the purple of the corolla. It has been cultivated hitherto in a stove; but there is reason to suppose that it will prove only an annual, or biennial at most. It is a species at once distinguished from *Exacum Zeylanicum* (Tab. nostr. 4423), by the terete stems and sharp lobes of the corolla.

Descr. *Root* imperfectly fusiform and branched. *Stem* a foot to near a foot and a half high (in our Herbarium), nearly terete the whole length, glabrous, copiously leafy below, distantly so

above, very slightly branched. Lower *leaves* almost obovate, and short, gradually longer and larger, and more acuminate upward: the usual form is between elliptical and lanceolate, tapering at both extremities; all are opposite, sessile, quite entire, and strongly marked with three parallel nerves. *Corymb* terminal, bearing several large, handsome, richly coloured *flowers*, on moderately long slender peduncles. *Calyx* large, somewhat inflated, deeply cut into five lanceolato-subulate segments; a wing appears down the middle of each segment, which, from being broad on the tube, gradually loses itself on the lobe. *Corolla* rotate, of five large, broad, ovate, spreading, deep purple segments, rather oblique. *Stamens* five. *Filaments* short; *anther* large, yellow, linear-subulate, approximating into a cone, each opening by two pores at the extremity. *Ovary* oval, glabrous. *Style* filiform, declined. *Stigma* subcapitate, obscurely two-lipped.

Fig. 1. Stamen. 2. Pistil:—*magnified.*

Fitch, del. et lith

Tab. 4772.

SACCOLABIUM denticulatum.

Toothed Saccolabium.

Nat. Ord. Orchideæ.—Gynandria Monogynia.

Gen. Char. *Perianthium* explanatum, patens. *Sepala* petalis æqualia, lateralia, sæpius majora. *Labellum* indivisum, calcaratum, basi columnæ accretum. *Columna* erecta, semiteres, rostello subulato. *Anthera* semibilocularis. *Pollinia* 2, subglobosa, caudicula elongata, glandula minuta.—Herbæ *epiphytæ*, *caulescentes*. Folia *disticha*, *coriacea*, *apice sæpius obliqua*. Flores *axillares*, *racemosi v. solitarii*. *Lindl.*

Saccolabium *denticulatum;* caule repente radicoso, foliis lineari-oblongis acutissimis, racemis corymbosis folio brevioribus, sepalis petalisque subsimilibus obovato-spathulatis patentibus, labelli calcare globoso amplo utrinque unidentato perianthio æquali, laminæ lato-triangularis margine densissime glanduloso-fimbriato, columna brevi denticulata.

Saccolabium denticulatum. *Paxton, Mag. of Bot. v.* 7. *p.* 145. *cum Ic.*

Said to be a native of Khasya in Eastern Bengal, introduced to our stoves in 1837, and among the Orchideous collection bequeathed to Kew by the late Mr. Clowes. It is a plant of little show, but the flowers are exceedingly beautiful when minutely examined, and they are prettily variegated in regard to colour. It flowers with us in November.

Descr. *Stems* a span or more long, thicker than a swan's quill, here and there throwing out large fleshy unbranched vermicular *roots*. *Leaves* rather remote, distichous, four to five inches long, patent or reflexed, linear, oblong, acute, one-nerved, somewhat fleshy, articulated upon the sheath, often obliquely twisted. *Peduncles* lateral, extra-axillary, much shorter than the leaves, terete, thickened upwards, bearing a corymbose or almost umbellate *raceme* of numerous small *flowers*, elegantly marked and spotted with red, white, and yellow. *Sepals* and *petals* free, spreading horizontally, nearly uniform in size and colour, obovato-spathulate, externally green, within olive-brown, spotted with

bright red. *Labellum*, the greater part of it is formed by the nearly globose spur, white, fleshy, large, tinged with yellow, having a tooth on each side in front; the lamina or lip resembles a broad white triangular appendage to the spur, reflexed and and margined with a deep white fringe of delicate glandular hairs; the disc of this lamina is dotted with red. *Column* very short, toothed at the sides, red. *Anther-case* nearly hemispherical.

Figs. 1 and 2. Views of the flower, from which the sepals and petals have been removed:—*magnified.*

Fitch, del. et lith.

F. Reeve, imp

Tab. 4773.

ASTROCARYUM rostratum.

Beak-sheathed Astrocaryum.

Nat. Ord. Palmæ.—Monœcia Hexandria.

Gen. Char. Flores monoici in eodem spadice, spatha simplici fusiformi ventre aperto lignescente diu persistente cincto.—Masc. in superiore ramorum parte densi, in alveolis sessiles. *Calyx exterior* 3-partitus v. 3-fidus, tener, basi pro trajicientibus vasis pervius; laciniis 3-angularibus, acutis; *interior* 3-partitus vel subtrisepalus; laciniis oblongo-lanceolatis, erectis, membranaceis vel basin versus carnosiusculis. *Stamina* abortu 6, ex imo calyce interiore orta, sepalis interioribus per paria opposita, raro plura, plerumque parum exserta (inclusa, *Endl.*); *filamenta* filiformia, erecta; *antheræ* lineari-subsagittatæ, dorso affixæ, incumbentes. *Ovarii rudimentum* minimum, stigmatibus tribus subulatis.—Fœm. infra masculorum spicas solitarii, in rachi vel in pedunculi parte dilatata sessiles; *bractea* marginali duplici, obvoluti. *Calyx* exterior urceolatus, obiter 3-dentatus, pergameneus, nervosus, sicciusculus; interior urceolatus, carnosus, ore contracto subdentato, tandem irregulariter trifido, intus basi in annulum membranaceum elevatus, uti exterior, foramine orbiculari pervius. *Ovarium* ovatum, loculis 2 rudimentariis 1-loculare. *Stylus* 1. *Stigmata* 3, in corpus floccoso-gelatinosum conicum vel lobatum confluentia. *Drupa* ovata vel subglobosa, 1-sperma; carne crassiuscula, valide fibrosa : putamine osseo, vertice 3-poroso. *Nuclei testa* venosa. *Albumen* æquabile, corneum, album, centro cavum. *Embryo* intra porum apicalis.

Palmæ *mediocris altitudinis, rarius acaules, locis sylvaticis humentibus calidis sparsæ vel subcæspitosæ degentes.* Caudex, *exceptis annulis, undique aculeis validis atris horridus.* Frondes *omnes terminales, pinnatæ, pinnis linearibus, approximatis, aculeato-ciliatis, subtus plerumque argenteo-albis;* petiolis *aculeatis.* Spadices *simpliciter ramosi, aculeis vel setis horridi, sæpius albo-tomentosi,* spathis *lignescentibus aculeatis inclusi, inter frondes persistentes.* Flores masculi *flavescentes, densi, spicati, profunde immersi;* fœminei *virescenti- vel ochroleuco-pallidi.* Drupæ *flavæ vel aurantiacæ, fibroso-carnosæ, calyce persistente stipatæ, inermes vel spinulosæ. Kth.*

Astrocaryum *rostratum;* caudice brevi, foliis lato-oblongis apice fissis, pinnis linearibus sæpissime connatis acuminatis aculeato-ciliatis subtus albo-furfuraceis, stipitibus rachique subtus spathisque cymbiformibus rostratis horride patentissime aculeatis, spadicis pedunculo aculeis erectis, florum masculorum alveolis margine dense albo-lanatis, calycibus minutis fœmineorum sessilium solitariis, drupis obovatis rostratis dense setoso-aculeatis, aculeis patentissimis.

The Palms in the noble house recently built for their reception in the Royal Gardens of Kew, are beginning to feel the benefit

of their translation from the old stoves, many of them growing with a rapidity almost incredible to those who do not witness it, exhibiting something of their native character, and not a few of them bearing flowers and fruit; so that we shall take advantage of our success, and from time to time present figures in the pages of our Magazine. But here, at the first introduction as it were of our design, we meet with difficulties of no ordinary kind, in endeavouring to ascertain the correct nomenclature of the species. The present one for example, received from Bahia, Brazil, has been long cultivated at Kew under the name of *Astrocaryum Ayri:* but we find it much at variance with the *A. Ayri* figured and described by Martius; the nature and direction of the aculei, the leaflets or pinnæ, the shape and size of the spatha being altogether at variance, nor can we find that it better accords with any other described species of the genus; so that nothing remains for us (presuming that the known species are correctly described) but to consider our plant as a new species, and to characterize it accordingly. The name is derived from the evident rostrum or beak of the spatha, and the fruit is no less distinctly rostrate.

Descr. Our tallest plants stand about ten feet high including the leaves. *Caudex*, to the springing of the lowest leaves, erect, scarcely a foot high, closely annulated with the scars of the fallen leaves, and there quite unarmed. *Leaves* six to eight feet long, including the petiole, which is about equal in length with the blade, and is densely clothed with a mass of short bristly prickles or aculei, intermixed with a great number of long and strong black ones, hard and rigid, two to four inches long, triangular, glossy: the *blade* of the leaf is oblong, split at the apex, formed of a very great number of *pinnæ*, which are two to three feet long, linear, acuminate, less than an inch wide in the broadest part, costate and with two parallel nerves on each side the midrib; the margin ciliated with distant black aculeiform setæ, single or twinned, above dark green, naked, and somewhat below glaucous, apparently from a minute scurfy covering, and rough to the touch with minute black raised points. *Spatha* axillary, on a short stipes, erecto-patent, pale greyish-brown, a foot or rather more long, cymbiform, thick-coriaceous, almost woody, terminating in a distinct narrow beak, opening outwardly, externally (except the beak) covered with innumerable patent (below a little deflexed), strong, black *aculei*, from half an inch to an inch long. The whole interior is occupied by a compound stalked *spike* of numerous closely placed whitish or cream-coloured *flowers;* the *stalk* or *petiole* downy, with a few appressed *bracts* and appressed black prickles. *Spikelets* cylindrical, clothed with *male flowers;* some of them having a solitary *female flower* at the base. The

rachis is alveolate, and the margin of each alveole is woolly: the flowers are all sessile or a little sunk in the alveoles. MALE FLOWER:—*Calyx* minute, trifid. *Corolla* tripartite; the *segments* ovate. *Stamens* six, inserted on the corolla. *Filaments* subulate. *Anther* oblong, scarcely exserted: in the centre is the rudiment of an ovary. FEMALE FLOWER:—*Calyx* minute, three-lobed, and, as well as the tripartite *corolla*, clothed with appressed acicular prickles. *Ovary* ovate, similarly aculeate: *style* short: *stigma* trifid. *Fruit* an obovate, almost orange-coloured *drupe*, with a beaked apex, everywhere echinated with sharp black spreading aculei.

Fig. 1. Male flower. 2. Female flower:—*magnified.* 3. Fruit:—*natural size.* The figure in the background is a much reduced plant of *Astrocaryum rostratum.*

4774.

Fitch, del. et lith.

P. Reeve imp

Tab. 4774.

HEINTZIA tigrina.

Spotted-flowered Heintzia.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx liber, quinquepartitus, subinæqualis, persistens, lobis basi nervo medio excrescente callosis, æstivatione valvata. *Corolla* hypogyna, infundibuliformis, extus supra basin ad marginem limbi tomentosa, *tubo* subcurvato, *limbo* quinquepartito inæquali subbilabiato, *laciniis* subcordato-orbiculatis, patentibus, duabus superioribus minoribus, tribus inferioribus paulo majoribus. *Stamina* quatuor, didynama, inclusa; *filamenta* subulata, basi dilatata, in tubum postice fissum coalita, hic corollæ tubo adnata; *antheræ* per paria cohærentes, biloculares, ovatæ. *Ovarium* liberum, disco annulari cinctum, tomentosum, uniloculare, placentis duabus parietalibus, bilobis; *ovula* plurima in funiculis longissimis anatropa. *Stylus* simplex, teres, longitudine filamentorum minorum. *Stigma* infundibuliforme, subbilobum. *Fructus* carnosus, unilocularis, corticatus, demum bivalvis, valvis medio placentiferis. *Semina* plurima in pulpa nidulantia, ovalia vel obovata, *testa* crustacea spiraliter striata. *Embryo* in axi albuminis oleosi parci cylindricus; *cotyledonibus* brevissimis applicatis, *radicula* umbilico proxima tereti. *Karst. in Walp.*

Heintzia *tigrina.*

Heintzia tigrina. *Karsten in Otto and Dietr. Allgm. Gart. Zeit. v.* 17. *p.* 33. *and Answ. Schönblühend. Gwchse. Venezuel. v.* 34. *t.* 11. *Walp. Annal. Bot. v.* 2. *p.* 1075.

A rather showy stove-plant, but with coarse foliage; for the possession of which at Kew we are indebted to Mr. Lowe, of the Clapton Nursery. It is a native of Caraccas, and is considered by some continental botanists to form a new genus of *Gesneriaceæ;* a family of plants however, all the individuals of which, as we have before had occasion to observe, require a thorough revision, and remodelling of their genera. When taken up in an isolated manner by those who are not familiar with the general structure of the whole, slight modifications in the form of the corolla or calyx, or in the nature of the hypogynous glands, will be magnified into real generic distinctions, though perhaps only of specific importance. As a genus, it cannot be far removed

from *Drymonia* and *Besleria*. We had not the opportunity of examining the perfect flowers from which the drawing was made, and therefore abstain from offering an opinion on the value of Mr. Karsten's new genus. With us it flowers in mid-winter.

Descr. *Stems* from two to three or even five feet high (according to some, obscurely tetragonal), nearly terete, erect, branched, red, downy. *Leaves* large, opposite, of a somewhat thick and fleshy nature, ovate, acuminate, strongly serrated, downy above, hoary and pale beneath, with a strong costa and many parallel veins, which are prominent beneath, the base tapering into the rather long, succulent *petioles*, which are also downy and reddish. The *inflorescence* is axillary, and described as umbelliform, but in our plant the peduncles are simple, single-flowered, bibracteated at the base, as long, including the flower, as the petioles. *Flowers* erect or nearly so, of moderate size. *Calyx* very large, pale yellow-green, tinged with red, truncated at the base, deeply cut into five, long, ovate, serrated *lobes*. *Corolla* white, infundibuliform, half as long again as the calyx: *tube* white, woolly. *Limb* of five, equal, rounded, spreading, orbicular, spotted *lobes*, the margins entire, the surface spotted with purple. *Stamens* and *style* downy, included. *Ovary* ovate, downy, with a rather obscure annulus at the base.

Fig. 1. Pistil:—*magnified.*

Fitch, del. et lith.

F. Reeve, imp.

Tab. 4775.

PITCAIRNIA longifolia.

Long-leaved Pitcairnia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4241.)

Pitcairnia *longifolia;* caule erecto elongato simplici dense annulato, foliis longissimis (4-pedalibus) e lata basi amplexante striato pubescente lanceolatis acuminatissimis supra basin insigniter attenuatis viridibus spinuloso-ciliatis, paniculæ terminalis ramis racemosis, floribus secundis, pedicellis bracteolatis, sepalis subulatis viridibus corolla coccinea triplo brevioribus. petalis convolutis coccineis apicibus unilateralibus basi intus squamosis, staminibus styloque subexsertis corolla paulo brevioribus.

A distinct and well-marked species of *Pitcairnia*, which was received from Lima, in 1852, through Mr. William Nation; readily distinguished by the elongated stem or caudex, more than an inch thick, annulated by the closely-placed bases of the former year's leaves, and the much-divided panicle of red flowers with green calyces. From *P. Jacksoni* (see our Tab. 4540) it is easily known by the tall stem above alluded to, the very long, spiny leaves, smaller flowers, green subulate calyces, compound or paniculated raceme; but near which it must rank in any system. It is a handsome species, and flowered in our stove in December, 1853.

Descr. Our *plant* has a *stem* or *caudex* a span or more high, three inches in circumference, scarred with transverse lines, whence the leaves have fallen, but above clothed with the withered *bases* of old leaves. From the summit a spreading tuft of pale-green coriaceous leaves, of great length (often four feet long), appears; they are between lanceolate and sword-shaped, acuminated to a very slender point, towards the base gradually and very much contracted, and then carinated; at the setting on upon the stem dilated into a broad, concave, sheathing, striated, amplexicaul or semiamplexicaul base, for the whole

length rather minutely spinuloso-serrulated. *Panicle* longer than the leaves, terminal, in reality a compound raceme; the *branches* patent, somewhat distichous; *peduncles* and *branches* green, tomentose. *Bracteas* small, subulate, appressed. *Flowers* secund. *Pedicels* short, about as long as, or longer than, the bracteoles. *Calyx* of three, erect, subulate or subulato-lanceolate, quite green *sepals*, erect, appressed, rather more than one-third the length of the corolla. *Petals* three, two inches long, linear-oblong, subspathulate, channelled, furnished with a bifid scale at the base, bright-red; they are convolute into a tube for about two-thirds of the length, then spreading all to one side. *Stamens* longer than the tubular portion of the petals, but shorter than the petals themselves. *Filaments* slender, white. *Anthers* linear, curved, yellow. *Ovary* free, pyramidal, with three furrows and three cells, tapering above into a filiform *style*, a little longer than the stamens. *Stigmas* three, moderately spreading.

Fig. 1. Petal. 2. Pistil:—*magnified.*

Hitch. del. et lith.

Vincent Brooks Imp.

Tab. 4776.

GENTIANA Fortuni.

Mr. Fortune's Gentian.

Nat. Ord. Gentianeæ.—Pentandria Digynia.

Gen. Char. Calyx 5–4-partitus vel 5-fidus, hinc dimidiato-spathaceus, valvaris. *Corolla* marcescens, aut infundibuliformis v. hypocraterimorpha v. rotata, aut clavata vel campanulata, rarius glandulifera, nuda aut corona vel plicis sæpius exsertis aucta, foveis epipetalis destituta, limbo 5–4-partito (hinc flore 6–8-mero), aut plicis spurie 10-partito. *Stamina* 5 vel 4, corollæ tubo inserta; *filamentis* basi æqualibus. *Antheræ* incumbentes v. erectæ, hinc in tubum connatæ et extrorsum dehiscentes. *Ovarium* disco spurio interrupto basilari plerumque cinctum, uniloculare; *ovulis* juxta suturam seriatis. *Stigmata* 2, terminalia, revoluta, aut si contigua infundibularia; *stylo* nullo aut cum infundibulo stigmatico stigmatibusve persistente. *Capsula* bivalvis, septicida, unilocularis, placentis membranaceis areæ juxta suturam extensæ insertis. *Semina* placentis immersa.—Herbæ *sæpius perennes, habitu variæ*, caule *recto v. abbreviato*, foliis *oppositis*, cyma *racemiformi aut* floribus *terminalibus. Griseb.*

Gentiana (§ Pneumonanthe) *Fortuni;* caulibus subcæspitosis erectis vel adscendentibus, foliis lato-lanceolatis (infimis ovatis) 3-nerviis margine scabris, floribus in axillis solitariis terminalibus glomeratis sessilibus, calycis tubo campanulato laciniis 5 linearibus recurvis, corollæ intense cæruleæ albo-maculatæ apertæ pentameræ lobis cordato-ovatis plicis brevibus inæqualiter 3-dentatis vix exsertis, antheris liberis.

Grisebach, in De Candolle's Prodromus, vol. ix., has characterized 153 species of *Gentiana;* and beautiful as they generally are, the present equals, we think, if it does not excel in beauty, all that have yet been described. It evidently belongs to the same group or section of the genus with our well-known *G. Pneumonanthe*, and with the Siberian and Altaic *G. septemfida* of Pallas and of Sims (Botanical Magazine, Tabs. 1229, 1410), particularly with variety *maculata*, represented on the latter plate. It is however a taller, more robust-growing plant, with more distant foliage, larger flowers, and it is at once distinguishable by the plicæ or scales at the mouth having three, often irregular, blunt teeth, scarcely projecting beyond the mouth of the tube of the

corolla, whereas in *G. septemfida* they are large and prominent, and furnished with long cilia, giving a densely fringed character to the mouth of the flower. Our charming species is a native of northern China (the exact locality is not stated), and was sent by Mr. Fortune, in 1849, to Messrs. Standish and Noble of the Bagshot Nursery. Showing a disposition to flower, as it did, late in the autumn, it was kept in a greenhouse, and the blossom expanded in December 1853, when our drawing was made. It will, there can be little doubt, prove hardy.

Descr. From the collum or neck of the *root* two or three *stems* appear, erect or ascending, terete, glabrous, simple. *Leaves* in rather distant pairs, opposite, the lowest small and ovate, the rest an inch and a half or nearly two inches long, lanceolate, glabrous, three-nerved, the margin scabrous, the base tapering, and united with that of the opposite leaf. *Flowers* axillary, solitary, sessile, the ultimate ones, from the approximation of the leaves, glomerate, large, very handsome, sessile, generally accompanied by two small leaves at the base. *Calyx* quinquefid; the *tube* campanulate; *segments* of the *limb* linear, acuminate, and recurved. *Corolla* infundibuliform, slightly ventricose: *limb* of five, spreading, cordato-ovate lobes, intensely deep blue, as is the inside of the tube, and equally spotted with white. *Scales* of the corolla short, blunt, three-toothed, scarcely projecting beyond the base of the sinus of the lobes; teeth unequal. *Stamens* five, inserted below the middle of the corolla, quite included. *Anthers* free, linear. *Ovary* subcylindrical, a little inflated in the middle. *Styles*, or rather *stigmas*, two, linear, recurved.

Fig. 1. Corolla laid open. 2. Pistil:—*magnified*.

Tab. 4777, 4778.

WELLINGTONIA GIGANTEA.

Gigantic Wellingtonia.

Nat. Ord. Coniferæ.—Diœcia Monadelphia.

Gen. Char. Flores dioici?—Masculi . . . ? Fœminei: *Strobili* oblongi, lignei; squamis numerosis, cuneatis, truncatis, per apophysin transverse (ob bracteam æquilongam omnino adnatam) sulcatis, mucrone in medio. *Semina* 7 cuique squamæ, supra medium pendula, compressa, utrinque alata.—Arbor *vasta*, *tricentipedalia*, *Californica*, foliis *parvis alternis*.

Wellingtonia *gigantea*.

Wellingtonia gigantea. *Lindl. in Gardeners' Chronicle for December*, 1853, *No.* 52, *p.* 820 *and* 823. *Veitch, lithographic plate, large folio*, 1854; *drawn from nature by J. M. Lapham.*

Of late the curiosity of the public, as well as of the botanist, has been excited by a discovery of Mr. William Lobb, of a coniferous tree in the interior of California, of a most gigantic size, measuring 300 feet and more in height, and from 10 to 20 feet in the diameter (30 to 60 feet in circumference) of its trunk. Douglas's *Pinus Lambertiana*, of the Oregon, measured two-thirds of that height, with a trunk nearly equal in girth to that just mentioned, and the same intrepid traveller has described a Californian tree in the following language*: "But the great beauty of Californian vegetation is a species of *Taxodium*, which gives the mountains a most peculiar, I was almost going to say, awful appearance, something which plainly tells us we are not in Europe. I have repeatedly measured specimens of this tree 270 feet long, and 32 feet round, at three feet above the ground. Some few I saw upwards of 300 feet high, but none in which the thickness was greater than those I have instanced."—No seeds or specimens indicated as belonging to this tree were ever transmitted by him to Europe. Still I was disposed to refer barren branchlets of a *Conifera*, sent home by Douglas, to this

* See Douglas's Letters, in Memoir of Douglas, published in 'Hooker's Companion to the Botanical Magazine,' vol. ii. p. 150.

monster tree, which I published in the 'Icones Plantarum,' tab. 379, as the *Sequoia sempervirens**, and probably the tree in question. Time, and our increased and increasing knowledge of Californian trees, proved that I was in error, and that the subject of my plate in reality belonged to *Abies bracteata* (Botanical Magazine, Tab. 4640). Happily Mr. William Lobb sent home specimens of the branches of his gigantic Conifer, bearing foliage and cones, a drawing of the entire tree, with its accompanying scenery, bark, wood, etc., together with the following account of it, which appeared in the 'Gardeners' Chronicle,' under the article quoted above, of Dr. Lindley, for 1853, p. 819:—

"This magnificent tree, from its extraordinary height and large dimensions, may be termed the monarch of the Californian forest. It inhabits a solitary district on the elevated slopes of the Sierra Nevada, near the head-waters of the Stanislau and San Antonio rivers, in latitude 38° N., longitude 129° 10′ W., at an elevation of 5000 feet from the level of the sea. From eighty to ninety trees exist, all within the circuit of a mile, and these varying from 250 feet to 320 feet in height, and from ten to twenty feet in the diameter of the trunk. Their manner of growth is much like that of *Sequoia* (Taxodium) *sempervirens*; some are solitary, some are in pairs, while some, and not unfrequently, stand three and four together. A tree recently felled measured about 300 feet in length, with a diameter, including bark, 29 feet 2 inches, at five feet from the ground; at eighteen feet from the ground it was 14 feet 6 inches through; at 100 feet from the ground, fourteen feet; and at 200 feet from the ground, five feet five inches. The bark is of a pale cinnamon-brown, and from twelve to fifteen inches in thickness. The branchlets are round, somewhat pendent, and resembling a Cypress or Juniper. The leaves are pale grass-green; those of the young trees are spreading, with a sharp, acuminate point. The cones are about two and a half inches long, and two inches across the thickest part. The trunk of the tree in question was perfectly solid from the sap-wood to the centre, and, judging by the number of concentric rings, its age has been estimated at 3000 years. The wood is light, soft, and of a reddish colour, like Redwood (or *Taxodium sempervivum*).

"Of this vegetable monster, twenty-one feet of the bark, from the lower part of the trunk, has been put up in the natural form, in San Francisco, for exhibition; it there forms a spacious carpeted room, and contains a piano, and seats for forty persons.

* Mr. William Lobb (see 'Gardeners' Chronicle,' 1854, p. 22) has shown that Douglas's monster tree could not have been the *Wellingtonia*, for he was not within 120 miles of its locality, but that it was really and truly the *Sequoia sempervirens*. *Sequoia gigantea*, therefore, of Endlicher, taken up from our figure, is a nonentity.

On one occasion, a hundred and forty children were admitted without inconvenience."

Dr. Lindley not unnaturally exclaims, "What a tree is this! of what portentous aspect, and almost fabulous antiquity! They say that the specimen felled at the junction of the Stanislau and San Antonio was above 3000 years old; that is to say, it must have been a little plant when Sampson was slaying the Philistines, or Paris running away with Helen, or Æneas carrying off good Pater Anchises upon his filial shoulders. And this may very well be true if it does not grow above two inches in diameter in twenty years, which we believe to be the fact. At all events we have obtained the plant. The seed received by Messrs. Veitch has all the appearance of vitality, and since the tree is hardy and evergreen, it is a prodigious acquisition." Since this was written, less than three months ago, the seeds have germinated; and the young plants have prospered so well, that they are now, we believe, offered for sale by the Messrs. Veitch, at their extensive exotic nurseries, Exeter, and King's-road, Chelsea, and we trust we may live to see them as common in Great Britain as *Deodars* have now become.

Although we as yet know nothing of the male fructification, nor of the cones, save in the mature state, yet in these latter, together with the specimen with young and adult foliage, which Messrs. Veitch laid before Dr. Lindley, there were sufficient materials for that botanist to determine that the tree belonged to a perfectly new genus, with foliage not very dissimilar to that of the Junipers, yet with true cones, or *strobili*, as large as those of the Scotch Fir, but in structure very much resembling those of the Japan genus *Sciadopitys* of Siebold and Zuccarini, Flora of Japan, ii. p. 1. t. 102,—which however has leaves the longest (four to five inches long, and the broadest more than a line in width,) of any genus of *Coniferæ* of the northern hemisphere; and so arranged in whorls that each whorl is umbraculate, whence the generic name.

Descr. A gigantic *tree*, attaining a height of more than three hundred feet. (Its general habit and ramification will be best understood by a reference to our figure at Tab. 4777.) Greatest dianeter of the trunk twenty feet, or sixty feet in circumference; bark exceedingly thick. Extremities or terminal *branchlets* somewhat distichously pinnated, drooping, slender, filiform. *Leaves* small, alternate, coriaceous, palish green, spirally as it were arranged, three completing the circuit of the trunk, all of them erect and imbricated, so that the branches, in conjunction with the leaves, are nearly terete. The leaves of the young plants are oblong-subulate, apiculate, or mucronate; semiamplexicaul at the base, keeled at the back, plane within, but with a slightly cle-

vated central ridge: those of the older branches are smaller, shorter, more compact, and crowded, ovato-lanceolate, acute. *Male flowers* unknown. Of the *cones* we are only acquainted with fully ripe ones, from which the seeds had been removed; they are nearly two inches long, by one and three-quarters inch broad in the widest part, ovate, obtuse, sessile? ligneous, composed of a central axis (or apophysis), of a stoutish cylindrical form, bearing a number of rather large, thick, spreading scales, of the same substance and texture as the apophysis, and forming one with it, by means of the thickened base; the thickness of the scale is increased by the entire union of the *bractea* with the scale: its apex dilated, convex, transversely rhomboideal, with a transverse, elevated ridge or keel, and in the centre an umbonated depression. Beneath each scale, according to Dr. Lindley, are lodged seven seeds, exactly as in *Sciadopitys;* and these seeds of the same shape, too, as in that genus, that is, nearly orbicular, compressed, small, less than one line long, scarcely winged at the margins.

Tab. 4777. Representation of the entire tree, reduced with Mr. Veitch's permission from his plate above alluded to.—Tab. 4778. Fig. A. Small specimens of a young branch. B. Older specimen:—*nat. size.* Fig. 1. Foliage from A. 2. Foliage from B:—*both magnified.* 3. Cone:—*nat. size.* 4. Vertical section of a cone:—*nat. size.* 5. Seeds:—*magnified.*

Tab. 4779.

CERATOSTEMA LONGIFLORUM.

Long-flowered Ceratostema.

Nat. Ord. Vaccinieæ.—Decandria Monogynia.

Gen. Char. Calyx turbinatus, 5-gamosepalus, semi-adhærens, limbo 5-partito, partitionibus liberis magnis ovato-lanceolatis acuminatis marcescentibus. *Corolla* plerumque magna, crassa, subcoriacea, tubulosa, subconica, nervosa, 5-gamopetala, apice breviter angulata, limbo 5-fido, laciniis acutis erectis vel reflexis. *Stamina* 10, epigyna, recta, corollæ longitudine, inclusa. *Filamenta* brevia, compressa, linearia, supra basin extus hirta, pilis rufis retroflexis subcoalita. *Antheræ* longissimæ, biloculares, loculis basi liberis, medio coalitis, adnatis, superne liberis, in tubulos longe productis, poro obliquo apice dehiscentibus. *Discus* epigynus, liberus, annularis. *Ovarium* semi-adhærens, subturbinatum, truncatum, punctis decem excavatis, staminum insertionibus respondentibus notatum, e carpellis 5 coalitis, 5-loculare. *Stylus* cylindricus, rectus. *Stigma* subcapitatum, 5-striatum, obsolete pentagonum. *Bacca* turbinata, subglobosa, interdum obscure pentagona, superne truncata, limbo calycino et disco siccis marcidis coronata, subumbilicata, 5-locularis, loculis polyspermis. *Semina* plurima, minima, obovata, ossea.—Frutices *Peruviani, sempervirentes.* Caules *erecti, ramosissimi;* rami *patuli.* Folia *integra, breviter petiolata.* Flores *spicati, terminales vel axillares, 1-ni, 2-ni, 3-ni, 4-nique,* bracteolis 2 *supra basin cincti, florentes primum erecti, dein cernui, tandem fructiferi erecti.* Gemmarum *squamæ, bracteæ, racemi, calyces, corollæ et baccæ rubicundi coloris. De Cand.*

Ceratostema *longiflorum;* ramis junioribus pubescentibus, foliis brevissime petiolatis parvis coriaceis ovali-cordatis utrinque punctulatis marginibus revolutis integerrimis, floribus nutantibus subterminalibus præcipue in axillares foliorum solitariis nunc aggregatis, pedunculis vix folia superantibus calycibusque pubescentibus, corollis amplis suburceolato-cylindraceis calycem quintuplo superantibus limbi lobis 5 patentibus.

Ceratostema longiflorum. *Lindl. in Gard. Chron.* 1848, *p.* 87. *cum Ic. Klotzsch, in Linnæa, v.* 24. *p.* 68.

Ceratostema grandiflorum, *Ruiz et Pav. Ic. ined. t.* 383 *b*?

This splendid Ericaceous plant was introduced to our collections by Messrs. Veitch and Son of the Exotic Nurseries, Exeter, and of King's-road, Chelsea, having been found by their collector Mr. W. Lobb on the Andes of Peru, at an elevation of 12,000 feet above the level of the sea. It had been treated, we believe, as a

April 1st, 1854.

half-hardy plant. A flowering specimen attracted much attention at the Chiswick Horticultural Summer Exhibition of 1853, and from that our figure was taken. Dr. Lindley considers it the finest species of the genus. He overlooks probably the *C. grandiflorum* of Ruiz and Pav. Ic. ined. tab. 383 *b.*, which if there be no exaggeration, has flowers in all likelihood, of the same rich colour, half as big again as these; but I suspect in reality that figure is intended to represent our plant, or a variety of it, with longer and somewhat sharply pointed leaves. The plate in question is unaccompanied by descriptive characters; but Don, in Dict. of Gard., who was likely to have Ruiz and Pavon's own specimens before him in the Lambertian Herbarium, in his very meagre specific character speaks of the leaves as "lanceolate, or *ovate*," and in the latter case the two plants do not seem to be specifically distinct.

Descr. Our *plant* was about a foot high. Young *branches* downy, terete. *Leaves* upon very short *petioles*, ovate, obtuse, or rather between oval and cordate, coriaceous, the margin recurved, dark green, and shining above, paler beneath, punctate, with impressed dots on both sides. *Peduncles* from the axils of the upper leaves, and also terminal, usually solitary, rather thick, bibracteolate, decurved, downy; *flowers* large, nearly two inches long, drooping. *Calyx* pubescenti-hirsute; *tube* turbinate; *limb* of five ovate, acute *lobes*. *Corolla* scarlet, merging into yellow at the apex, between urceolate and cylindrical, of a thick texture, between waxy and coriaceous; *limb* of five, spreading, acute lobes. *Stamens* ten, from the circumference of a depressed *epigynous disc*. *Filaments* short, hairy at the back. *Anther* with two very long, slender, filiform, erect horns, as long as the tube of the corolla, each opening by a pore at the extremity. *Style* from the centre of the epigynous *disc*, as long as the corolla, terete. *Ovary* five-celled, many-seeded.

Fig. 1. Calyx and pistil. 2. Transverse section of ovary. 3. Stamen:—*magnified.*

Tab. 4780.

TORREYA Myristica.

Californian Nutmeg.

Nat. Ord. Coniferæ.—Diœcia Polyandria.

Gen. Char. Dioica.—Masc. *Amentum* primo subglobosum, demum elongatum. *Rachis* nuda, demum elongata, basi squamis siccis quadrifariam imbricatis bracteata, multiflora. *Squamæ* staminiferæ pedicellatæ, subpeltatæ, dimidiatæ, hinc antheram 4-locularem pendulam gerentes.—Fœm. *Amentum* ovatum, basi ut in mare, bracteatum, uniflorum. *Discus* carnosus hypogynus nullus. *Ovulum* erectum. *Semen* ovatum, basi squamis siccis haud grandefactis bracteatum, cæterum nudum; *testa* crassa extus carnoso-coriacea, intus fibrosa; *tegmen* crustaceum, durum. *Albumen* ruminatum. *Embryo* subcylindricus, brevis; *cotyledones* connatæ.—Arbores. Rami *patentes;* ramuli *distiche oppositi.* Folia *disticha, linearia, rigida, mucronato-pungentia.—Arn.*

Torreya *Myristica;* foliis biuncialibus et ultra longe mucronatis siccitate utrinque planis subtus concoloribus lineisque duabus impressis. fructu magno exacte elliptico valde pulposo.

A beautiful evergreen tree, thirty to forty feet high, native of elevated regions in the Sierra Nevada of California, where it was discovered by Mr. William Lobb in 1851, who sent specimens and seeds home to Messrs. Veitch and Son, of the Exotic Nursery, Exeter, and King's-road, Chelsea. The slightest glance at the internal structure of the fruit at once identifies this tree with the genus *Torreya* of the southern United States, but only in the Aspalaga and Apalachicola country of Middle Florida. There has been discovered the *Torreya taxifolia* of Dr. Arnott (in Taylor, Ann. of Nat. Hist. v. 1. p. 130, and in Hook. Ic. Plant. tab. 232 and 233). Those who are familiar with that species, now not very rare in our gardens and pleasure-grounds, or who will revert to the figures just quoted, will hear with surprise that I have had no little difficulty in framing specific characters that shall clearly distinguish the two. On first aspect there is as much difference between them as there is between the *Cephalotaxus Fortuni* (see our Tab. 4499) and the *common Yew* (setting the fruit aside). The *Cephalotaxus* represents our

Californian Nutmeg with its large foliage, and the common Yew the *Torreya taxifolia;* in fact, the foliage and fruit of *Torreya Myristica* are more than twice the size of *T. taxifolia*, and thus the common observer will never be at a loss to distinguish them. To the botanist I may mention the following discriminative marks:—

Torreya taxifolia.	Torreya Myristica.
Branches pale ashy-brown.	*Branches* red-brown.
Leaves one inch long, half a line wide, convex above, grooved beneath from the reflexed margin, and of a paler hue, with a slightly raised parallel brownish line on each side the midrib; mucro short.	*Leaves* two inches and often more long, one line wide, nearly plane above and beneath, the under-side rather paler, with a depressed or sunken line of the same colour on each side the midrib; mucro long.
Male flowers with the scales all acute and mucronated.	*Male flowers* (not by any means fully developed) with the inner scales membranaceous, obtuse and erose.
Fruit scarcely an inch long, somewhat obovate and acute.	*Fruit*, the smallest specimen an inch and a half long, in shape exactly elliptical.
Wood of a reddish colour, like that of *Juniperus Virginiana* (Dr. Torrey).	*Wood* yellow, like Box, as seen at Mr. Veitch's Nursery, King's-road, Chelsea.

Any further remarks would be superfluous; further and more important distinguishing marks may be looked for in the perfect male and female *flowers*. The plant has not only been imported alive by Messrs. Veitch, but they have reared many plants from seed.

Tab. 4781.

DESFONTAINIA spinosa.

Holly-leaved Desfontainia.

Nat. Ord. Solaneis affine?—Pentandria Monogynia.

Gen. Char. Calyx 5-partitus, persistens, laciniis lanceolatis erectis. *Corolla* tubulosa, subimmersa, subcartilaginea, tubo calycem duplo superante, nervoso; nervis per medias limbi patentis æqualiter 5-partiti lacinias ovatas æstivatione imbricatas decurrentibus. *Stamina* 5, fauci corollæ inserta, ejusdem laciniis alterna, inclusa. *Filamenta* brevia, complanata. *Antheræ* lanceolatæ, acutæ, basi affixæ, biloculares, longitudinaliter dehiscentes. *Ovarium* ovali-globosum, quinqueloculare, placentis carnosis in loculorum angulis interioribus; *ovulis* numerosis subquadriserialibus pendentibus. *Bacca* globosa, calyce persistente munita. *Semina* plurima, parva, ovato-oblonga, nitida, angulata, testa coriacea hinc raphe prominula callosa umbilicum basilarem chalazæ apice dilatatæ jungente percursa. *Embryo* in basi albuminis dense carnosi copiosi prope umbilicum minimum subglobosum, cotyledonibus brevissimis.—Frutices *Peruviani* (*et Chilenses*). Folia *opposita, dentato-spinosa, petiolata, coriacea, amara, petiolis cum ramo articulatis.* Flores *axillares et terminales, solitarii, pedunculati;* pedunculis *bibracteolatis.* Corolla *coccinea, limbo luteo.—Dun.* (*in part.*)

Desfontainia *spinosa.*

Desfontainia spinosa. *Ruiz et Pav. Fl. Peruv. v.* 2. *p.* 47. *t.* 186. *Hook. Ic. Pl. v.* 1. *t.* 33. *Hook. fil. Fl. Antarct. v.* 2. *p.* 332. *Dunal in De Cand. Prodr. v.* 13. *p.* 675.

Desfontainia splendens. *H. B. Pl. Æquinoct. v.* 1. *p.* 157. *t.* 45. *Dunal, l. c., p.* 676.

Desfontainia Hookeri. *Dunal, l. c., p.* 676.

Desfontainia acutangula. *Dunal, l. c., p.* 676.

This splendid accession to our garden culture has been long known in our Herbaria, but its place in the Natural System is still a puzzle. We had hoped to have found the subject discussed in some of the many learned essays on *Solaneæ* by our valued friend Mr. Miers; but he writes word to us, "I have not taken up *Desfontainia*, because I always considered it quite foreign to *Solanaceæ*, especially on account of its opposite leaves, the æstivation of its corolla, and structure of its ovarium; nor does it accord better with any genus of *Atropaceæ*.

May 1st, 1854.

If the natural family of this plant is difficult to fix, so are the limits of the species. According to modern views of considering any possible variation of form as characteristic of a new species, Dunal reckons four species; but I fear he is guided rather by locality than difference in form. The original *D. spinosa* of Ruiz and Pavon is the Peruvian plant from Tarma. *R. splendens*, of Bonpland, is from Quindiu, in Ecuador. *D. Hookeri* is the name Dunal gives to my *D. spinosa* from Valdivia. His *D. acutangula* is from Tolima, near Maraquita, New Granada. A shrub, however, which can be traced from the northern part of South America to Valdivia, and even to Staten Land, in 53° south, may be expected to vary in different localities in the size of the plant, in the more or less spiny nature of the leaves, in the downy or glabrous calyx, and the relative size of the foliage and corolla. We possess specimens from the extreme south which cannot be distinguished from those of the north. Everywhere it is a most lovely plant, with perennial, glossy, holly-like foliage, and flowers often two inches long, rich scarlet, tipped with yellow. Messrs. Veitch, of the Exeter and Chelsea Exotic Nurseries, had the honour to introduce this plant from Valdivia to our greenhouses, through Mr. William Lobb, and our figures were made from the plant exhibited at Chiswick, in August, 1853.

Descr. A rigid, erect-growing *shrub*, with somewhat angular, pale-coloured, opposite *branches*, and opposite *leaves*. The latter are on short *footstalks*, from one to two or two-and-a-half inches long, oval rather than ovate, waved, rigid, glossy, lobed at the margin, the lobes varying much in number, and tapering, as well as the apex of the leaf, into a sharp pungent *spine*. *Peduncles* solitary, axillary and terminal, thick, longer than the petioles, and bearing an oblong green *bractea* at the base, curved downward, single-flowered. *Flowers* large, pendent. *Calyx* 5-partite; lobes oblong, obtuse, erecto-patent, glabrous or slightly downy, minutely ciliated at the margin, persistent, withering. *Corolla* two inches long, funnel-shaped, angled, rich scarlet, tipped with yellow. *Lobes* of the *limb* scarcely spreading, obtuse. *Anthers* nearly sessile, linear, inserted at the mouth of the tube, shorter than the lobes of the corolla. *Ovary* oval-cylindrical, glabrous, five-celled. In the inner angle of each cell is a large fleshy *receptacle*, bearing numerous pendent ovules on the back, in about four longitudinal rows or series. *Style* as long as the tube of the corolla. *Stigma* scarcely dilated, obscurely five-lobed. *Berry* globose, about the size of a wild cherry:—a perfect one with ripe seeds I have not examined.

Fig. 1. Section of calyx, with pistil. 2. Transverse section of ovary. 3. Corolla laid open:—*magnified*. 4. Berry, scarcely mature:—*nat. size*.

Tab. 4782.

ANGRÆCUM PERTUSUM.

Perforated Angræcum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4761.)

Angræcum *pertusum;* caule brevi, foliis distichis elongato-oblongis rectiusculis carinatis utrinque pinnulatis apice oblique bifidis basi equitantibus, racemis densis nutantibus axillaribus folia æquantibus, floribus imbricatis distichis, ovario sepalisque rotundatis concavis tuberculatis, petalis ovalibus, labello apice rotundato obtuso basi dilatato depresso, calcare clavato labelli longitudine.

Angræcum pertusum. *Lindl. in Paxton's Mag. of Bot. v. 7. p. 237.*

Angræcum is eminently an African genus, and were that country and its adjacent islands laid open to the visits of botanists the species would doubtless be found very numerous. Those that have been made known have been so chiefly through M. Aubert du Petit Thouars, and by imperfect descriptions. There is a vast difference in the size both of foliage and flowers between our present plant and *Angræcum eburneum*, Tab. 4761; but the general structure of the flowers and the habit of the plant are alike in both. *A. pertusum* is stated in the work above quoted to have flowered with Messrs. Loddiges, but there is no indication of the country which it inhabits. It was sent to the Kew Gardens by Messrs. Jackson, of the Kingston Nursery, and though possessing, like, we believe, all its congeners, no brilliant-coloured flowers, there is much grace and elegance in the drooping spikes of compact white blossoms, which appear in March.

Descr. There is a short, rather thick, creeping *stem* or *caudex*, about as thick as the finger, marked with the scars of fallen leaves, and throwing out thick, fleshy, simple, flexuose *roots*. *Leaves* all distichous, about a span long, strap-shaped, thick, fleshy, carinate, dotted, obliquely and bluntly two-lobed at the apex, the base sheathing and equitant, like the leaves of an *Iris*.

Peduncles about two on each plant, axillary, solitary, bracteated when young, but *bracteas* soon deciduous, and leaving scars. *Spike* four to five inches long, drooping, formed of numerous small greenish-white *flowers*. *Sepals* spreading, subrotundo-ovate, concave, fleshy, white, externally greenish and tuberculate, with minute, elevated dots. *Petals* spreading, similar in shape to the sepals, but smaller, quite white, and not tuberculate. *Lip* large for the size of the flower, white, subspathulate or obovato-spathulate: the side lobes almost obsolete, terminal lobe recurved, beneath having a comparatively large, greenish, decurved, obtuse, clavate *spur*, as long as the rest of the flower. *Ovary* short, small, tuberculate.

Fig. 1. Side view of a flower. 2. Front view of ditto. 3. Pollen-mass.

Tab. 4783.

IMANTOPHYLLUM? MINIATUM.

Brick-coloured Imantophyllum.

Gen. Char. Imantophyllum*. *Perianthium* superum corollaceum, 6-partitum, patenti-campanulatum, tubo brevissimo, laciniis late obovato-lanceolatis subæqualibus, 3 int. paulo majoribus. *Stamina* 6. *Filamenta* crassa, subulata, patentia, summo tubo inserta, *perianthii laciniis* subbreviora. *Antheræ* versatiles, brevi-oblongæ. *Ovarium* inferum trigonum, 3-loculare, *loculis* oligospermis, *ovula* subsex in quolibet loculo biseriatis, angulo interno affixa. *Stylus* crassus, decurvato-adscendens, perianthio longior. *Stigma* 3-fidum. *Capsula* carnosa, indehiscens. *Semina* (abortione) in singulo loculo solitaria, bulbiformia, rugosa, subpulposa, magnitudine seminis *Fabæ vulgaris* (horse-bean).—Herba *acaulis*. Radix *e fibris numerosis fasciculatis carnosis crassis*. Folia *radicalia ampla lorata disticha, basi latissima amplexante*. Scapus *plano-convexus, latus, apice umbellato-multiflorus*. Spatha *polyphylla, marcescens, colorata*. Flores *ampli, miniati, unicolores, pedicellati, bracteolati*; bracteolis *linearibus, longitudine fere pedicellorum*.

Imantophyllum? *miniatum.*

Vallota? miniata. *Lindl. in Gardeners' Chron.* 1854, *p.* 119; *and at p.* 149, *observations by Mr. Backhouse.*

A flowering specimen of this fine Amaryllidaceous plant was exhibited at a meeting of the Horticultural Society in February of the present year; and in the following month the Messrs. Backhouse, of the York Nursery, who imported the plant from Natal†, obligingly forwarded from their greenhouse the specimen here represented. Dr. Lindley noticed the plant doubtfully as a *Vallota:* it wants the peculiar duplicature of the faux of the corolla of that genus, and it has not a bulbous root. Mr. Backhouse agrees with us that it is nearer *Clivia* than *Vallota:* so near, that I am not sorry to transfer one of the two generic

* Not *Imatophyllum* (more correctly *Imantophyllum*) of ourselves, at Tab. 2856. It was unfortunate that that plate of *I. Aitoni* appeared on the same day on which the same plant was figured by Dr. Lindley in the 'Botanical Register' as *Clivia nobilis*. The name may, we think, thus with propriety be transferred to the present genus, a near ally of, but certainly distinct from, *Clivia*, Lindl.

† We have ourselves also received living plants of the same direct from Natal.

names which that plant has borne to the present. Mr. Backhouse alone has imported ripe fruit; and the seeds which he describes are in appearance similar to the so-called bulbiform seed of other Amaryllidaceous plants, *Crinum* for example. We shall conclude this article with a description from the living plant, by Mr. Backhouse, which accompanied the specimen.

Descr. "After removing the flower-stem, the plant was taken out of the pot, and the earth thoroughly washed from it, so as to allow a complete investigation of its root. This was done with a view of relieving the plant from the encumbrance of a ball of exhausted hard earth. The vertical *root-stock* is about four inches long, cylindrical, and truncated; the lower two inches are bare and like a section of a broomstick, about an inch in diameter. From the upper two inches protrude numerous whitish branched *fibres*, about the thickness of a goose's quill, clothed with a short pubescence on their younger portions. The *leaves* on our oldest plant were twenty-three in number, in opposite rows, the widened base of each leaf embracing that of the opposite one; and in this respect, as well as in the root, resembling *Clivia*. The leaves of our plant are not linear nor rigid, like *Clivia*, but are linear-lanceolate and stout, and exhibit not only the longitudinal nerves, but some of the stronger transverse partitions; like those of *Clivia*, they are perennial. In strong plants they come up from the centre in series of four to five at once, quickly succeeding each other; and about the time that the first of the new series is matured, the flower-stem is protruded between the outer one of these and the last of the next older series. The new leaves are of a rather brighter green than the old ones. The *flower-stem* is flattened, about a foot long, and supports an umbel of twelve to fifteen pedunculate flowers, at first enveloped in a sheath, composed of membranous and membranous-margined bracts. The *stamens* and *style*, when the flowers begin to open, are decidedly declining; but the expansion of the flowers carries the upper stamens a little out of this position, and spreads the whole of them. So far as we have seen, but one *ovule* in each cell swells. Once, one in each of two cells was matured, and the third was abortive. In two other instances only one in one cell matured, and those of the other cells were abortive. I did not examine minutely the original number of rudimentary ovules. The seeds, being valuable to us, were not cut, so as to examine their internal structure; but their size was that of a smallish horse-bean, and, though less rugged than those of *Crinum*, decidedly 'bulbiform,' at least so both William Wood and myself considered them. They were sown immediately, under the idea that they would not keep, and they quickly pushed up each a leaf. The *capsule* turned of a brownish colour and became soft, and the integument of the

seed was moist; and on a portion of the exterior being accidentally rubbed off, a silvery membranous coat, like that of the bulb-seeds of *Crinum*, was exhibited. Our old plant has for the last two years produced fresh leaves and a flower-stem about every four months. It has sent off several suckers from the portion of the root-stock which produces the fibres (if so the thick roots I have described may be called). If the flower-stem be kept in water, possibly some of the capsules may swell a little, so as to exhibit the number of the rudimentary ovules. The *corollas* are deciduous, as in *Clivia*, to which I certainly think the plant nearer than to *Vallota*. The flowers expand about two at a time daily, or in two days or longer periods, but remain so long as to form, along with the others also expanded, a fine head for from two weeks to a month, according to temperature."

Fig. 1. Pistil. 2. Transverse section of ovary :—*magnified*.

Vincent Brooks Imp

Tab. 4784.

BARKERIA elegans.

Elegant Barkeria.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala et petala æqualia, libera, membranacea, patentissima. *Labellum* planum, integerrimum, nudum, (cuneatum cum apiculo) columnæ adpressum. *Columna* petaloidea. *Anthera* 4-locularis, carnosa, septorum marginibus membranaceis. *Pollinia* 4, caudiculis totidem ligulatis reflexis, per paria connatis.—Herbæ *epiphytæ*, caulibus *fusiformibus carnosis*. Folia *angusta, membranacea, nervosa*. Pedunculi *longi, graciles, squamati, terminales, apice racemosi*. Flores *magni, conspicui, nutantes. Lindl.*

Barkeria *elegans;* foliis lanceolatis, racemo paucifloro, sepalis petalisque late ovato- seu obovato-lanceolatis acutiusculis, labello obovato obtusissime retuso basi callo oblongo medio brevi-trilamellato, columna late spathulata petaloidea.

Barkeria elegans. *Knowles and Westcott, Floral Cab. 2. p. 7. cum Ic.*

A less showy species, for the flowers are fewer and smaller, than the *B. spectabilis*, given in our Tab. 4094; but each individual blossom is very delicate and beautiful, and the form of the lip of the petals and sepals and column is quite different. The present was indeed the first discovered species, and upon which the genus was founded, exhibiting the very petaloid column, which is scarcely of that character in *B. spectabilis*. It is a native of the same country (Mexico), and was introduced by G. Barker, Esq., of Springfield. We are indebted to Messrs. Jackson, of Kingston, for the beautiful specimen here figured, which flowered in March.

Descr. *Stem*, rather than pseudo-bulb, a span and more long (when it passes into the peduncle), clustered, sheathed with the leaves of the rather distant foliage, spindle-shaped, striated. *Leaves* nearly distichous, remote, with long sheathing bases, oblong, subacute, spreading, costate, but nerveless. *Peduncle* twice as long as the stem, terminal, solitary, slender, green, blotched with purple, sheathed for the greater part of its length with

scariose elongated scales. *Raceme* lax, of four or five large, handsome flowers. *Flowers* spreading. *Petals* and *sepals* large, spreading, obovate or obovato-lanceolate, nearly equal, almost white, with a tinge of bluish within, delicate lilac-purple outside. *Lip* large, deflexed, broadly obovate, obtuse, with a mucro, having at its base an oblong callus, ending in three elevated lines; the colour is nearly white, with deep rose-coloured large blotches towards the apex. *Column* bent down as it were upon the lip, spathulate, petaloid, white, dotted with purple, and stained with yellow at the apex.

Fig. 1. Front view of the column. 2. Lip:—*magnified.*

Tab. 4785.

CŒLOGYNE testacea.

Clay-coloured Cœlogyne.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4440.)

Cœlogyne *testacea*; pseudobulbis angustis ovalibus angulatis, foliis lanceolatis tri-costatis, racemo pendulo, bracteis ovatis cucullatis ovarii longitudine, sepalis petalisque subæqualibus, labelli oblongi lobis lateralibus rotundatis obsoletis intermedio obtuso, venis 4 papillato-cristatis.

Cœlogyne testacea. *Lindl. Bot. Reg.* 1842. *Misc. n.* 34.

Introduced by Messrs. Loddiges from Sincapore. Its racemes, as Dr. Lindley justly observes, "have a dull clay colour, which renders them anything but handsome." In this respect the plant is very unlike other species of the genus, in which the play of colour, often on the purest white ground, is peculiarly beautiful. The plant blossoms readily in the stove, and generally in the early summer months.

Descr. *Pseudo-bulbs* clustered, oblong-ovate, dark green, varying in size, compressed and angled, partially clothed from below with large brown *scales*, and sending down coarse fibrous *radicles* from below. *Leaves* terminal on the pseudo-bulbs, broad lanceolate, submembranaceous, acute, petiolate, striated, and with three principal longitudinal ribs; *petiole* one-third as long as the leaf. *Peduncle* from the base of the bulb, arising from the axil of a large brown withered scale, and itself clothed for nearly its whole length with leafy imbricated scales. *Raceme* drooping, about as long as the leaf, bearing 8–10 subdistichous flowers. *Bracteas* large, ovate, brown, membranaceous, cucullate, concealing the ovary. *Sepals* and *petals* nearly uniform, oblong-lanceolate, obtuse, but somewhat apiculate, pale clayey white, subpatent. *Lip* scarcely longer than the sepals, broad-oblong, recurved, three-lobed, white, spotted and blotched

with brown; the side lobes rounded, short; terminal lobe very obtuse, slightly waved, having four elevated lines, fringed or crested with glandular fleshy hairs. *Column* tereti-compressed, dilated and winged on each side above, within which marginal wings the *anther* is placed. *Pollen-masses* four.

Fig. 1. Lip. 2. Column and anther-case. 3. Pollen-masses:—*magnified.*

At Tab. 4782 of our last number, instead of "Lindl. in Paxton's Mag. of Bot.," read "Paxton's Mag. of Bot.;" and at Tab. 4783 there should be no note of interrogation after the word "Imantophyllum?" These errors were occasioned by our unavoidable absence when the sheet passed through the press. —*W. J. H.*

Tab. 4786.

HEXACENTRIS Mysorensis.

Mysore Hexacentris; yellow-flowered var.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* pateræformis, parvus, limbo inæqualiter dentato repandove. *Bracteæ* duæ, altero latere connatæ, altero dehiscentes, valvatæ, calycem tegentes. *Corolla* infundibuliformi-campanulata, *tubo* brevissimo, *limbo* subæquali oblique quinquefido. *Stamina* tubi faucibus annulo barbato limbatis inserta. *Antheræ* erectæ, biloculares, glabræ, loculis parallelis contiguis, superiorum staminum uno basi longissime calcarato, altero brevi mucronulato, inferiorum utroque loculo longissime calcarato, calcaribus flexuosis. *Rudimentum staminis* quinti sterilis breve, subulatum. *Stigma* bifurcum, laciniis truncatis complicato-canaliculatis basi angustioribus. *Capsula* bilocularis, tetrasperma, rostrata. *Semina* cristata. *Dissepimentum* a valvis solubile, integrum, ad axin bipartibile.—Frutices *Indici, scandentes*, foliis *dentatis nervosis glabris*. Racemi *axillares et terminales, multiflori*, bracteis *communibus parvis*, floribus *oppositis solitariis vel fasciculatis, bracteolis caducis.—Nees.*

Hexacentris *Mysorensis;* foliis elliptico-lanceolatis acuminatis trinerviis basi sæpe subhastatis, racemo longissimo pendulo, bracteis omnibus lanceolatis parvis, corollæ amplæ labio superiore magno subindiviso, antheris basi longe barbatis, stigmate infundibuliformi.

Hexacentris Mysorensis. *Wight, Ic. Plant. Ind. Or. v.* 3. *p.* 6. *tab.* 871. *Walp. Annal. v.* 1. *p.* 539.

Hexacentris lutea. *Hort. Veitch.*

Hexacentris Mysorensis. *Paxt. Fl. Gard. v.* 3. *p.* 88.

Var. Corollis luteis, limbo sanguineo.

From the exotic nurseries of Messrs. Veitch and Son, Exeter, and King's Road, Chelsea, where it produces its long pendent racemes of deep yellow blossoms in the spring months. The original species *Hexacentris* (Thunbergia, *Wall.*) *coccinea* was much admired for the singularity and beauty of its blossoms; but this far exceeds them in the size and in the brightness of colour, and in the number of blossoms borne by each raceme. The *H. Mysorensis* given in 'Paxton's Flower Garden,' is a variety of this, with a sanguineous limb. Dr. Wight, the author of the present species, expressly describes the limb as "bright yellow."

June 1st, 1854.

Messrs. Veitch received seeds of their plant from Mr. M'Ivor of the Botanic Garden of Ootacamund, who obtained them probably from the locality mentioned by Dr. Wight, viz. Nuggur, in Mysore. Fine flowering specimens were exhibited at Chiswick, with five or six racemes.

Descr. A climbing *shrub*, with very long slender branches, extending far and wide, everywhere glabrous. *Leaves* opposite, on rather long *petioles*, 3–4 inches to a span long, oblong-lanceolate, acuminate, membranaceous, three-nerved, reticulated with transverse nerves, the base often subhastate, the margin entire, or more or less distinctly toothed. *Petioles* swollen at the apex, and still more at the base or point of insertion. *Racemes* very long, pendent, terminal on short leafy branches, bracteated; *bracteas* rather remote, opposite in pairs, all small, lanceolate; lower ones without flowers; the rest bearing single-flowered *pedicels* in their axils an inch or more long, at first straight, at length, when the flower expands, curved upwards, so as to bring the flower into an erect position. *Floral bracteas* two, large, closely applied to the flower, ovate, striated, purplish-green, at first closed, and including the whole blossom, at length opening on one side for the exclusion of the corolla, and then resembling a monophyllous spatha. *Calyx* very small, cup-shaped, shallow, the margin sinuous, entirely concealed by the bracteas. *Corolla* very large, bright, deep and full yellow. *Limb* spreading, four-lobed,—that is, the upper lip is not deeply bifid or two-lobed, but rather truncated and obscurely three-lobed; lower lip deeply three-lobed; all the lobes spreading. *Stamens* (as well as the style) shorter than the upper lip of the corolla, and sunk into a groove or channel (with a plica on each side). *Anthers* having a tuft of long hairs at the base. *Spurs* long, subulate. *Ovary* ovate, sunk into a large flat hypogynous *disc*, as large as the *calyx*. *Style* slender. *Stigma* funnel-shaped, hollow.

Fig. 1. Anther. 2. Calyx and pistil. 3. Calyx, hypogynous disc, and ovary:—*magnified.*

Tab. 4787.

DRACÆNA ELLIPTICA; var. *maculata*.

Elliptic-leaved Dracæna; spotted var.

Nat. Ord. Asparagineæ, *Kth.*—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4571.)

Dracæna *elliptica;* fruticosa, ramis laxis, foliis petiolatis elliptico-lanceolatis subcoriaceis nitidis mucronato-acutis nunc abortivis stipulæformibus, petiolis canaliculatis basi dilatato-amplexantibus, paniculis terminalibus subsessilibus ramis strictis patentibus, bracteis minutis, floribus plerumque ternis pedicellatis, perianthii segmentis linearibus patentibus tubum basin versus inflatum longitudine æquantibus, stylo staminibus vix longiore.

Dracæna elliptica. "*Thunb. in Diss. v.* 3." *Schultz, Syst. Veget. v.* 7. *p.* 345. *Kunth, Enum. Pl. v.* 5. *p.* 14.

Dracæna spicata. *Roxb. Fl. Ind. v.* 2. *p.* 157.

Dracæna terniflora. *Roxb. Fl. Ind. v.* 2. *p.* 159. *Wall. Cat. n.* 5147 *a.* (*in Herb. Hook.*)

Dracæna Wallichii. *Kunth in Act. Acad. Berol.* 1842. *p.* 26. *Enum. Plant. v.* 5. *p.* 11.

Dracæna Javanica. *Kunth, Enum. Plant. v.* 5. *p.* 12.

Sanseviera Javanica. "*Blume, Enum. Pl. Jav. v.* 1. *p.* 11." *Schultes, v.* 7. *p.* 360. *Hasskarl, Plant. Jav. Rar. p.* 114.

Cordyline Sieboldii. "*Planchon in Van Houtte, Flore des Serres, v.* 6. *p.* 109. *t.* 569" (*fide descr. in Walp. Ann. Bot. v.* 3. *p.* 644).

Terminalis alba. *Rumph. Amb. v.* 4. *p.* 79. *t.* 34. *f.* 1.

β *maculata;* floribus luteo-maculatis. (Tab. Nostr. 4787.)

Dracæna maculata. *Roxb. Fl. Ind. v.* 2. *p.* 157. *Kunth, Enum. Pl. v.* 5. *p.* 13.

Sanseviera Javanica, β. *Hasskarl, l. c. p.* 114.

Cordyline Sieboldii, β maculata. *Planch. et Walp. l. c.*

A pretty stove-plant, for which we are indebted to Messrs. Low, of the Clapton Nursery, who received it from the Belgian gardens, under the name of *Sanseviera Javanica*, var. *maculata*. This plant seems identical with the description of *Cordyline Sieboldii*, β *maculata*, of Planchon, as given by Walpers, l. c.;

but we are compelled to bring a host of other synonyms into the page, which we think all justly belong to this plant, and we are doubtful if we should not also include *Dracæna surculosa*, Lindl. Bot. Reg. t. 1169, and *D. ovata*, Ker, Bot. Mag. t. 1170 (one and the same plant); but the raceme is there simple and corymbose, and the locality Sierra Leone. They are evidently nearly allied species. The synonyms here adduced have been well considered. There can be little doubt of Rumphius's figure representing our plant, although the flowers are shorter and the petioles longer than in the majority of our specimens. Thunberg's characters (plant from Ceylon and Java) quite agree with our species, and we have pretty good authority in our own herbarium for Roxburgh's supposed species, besides his descriptions. The presence or absence of certain abortive leaves, common on the young shoots, passing into bracts at the base of the panicles, have probably misled authors; but it is a species of marked character. It seems to abound in the Malay Archipelago, Amboyna (Rumphius). We possess the species in our herbarium from Ceylon, Java, Sumatra, Borneo (Lobb), Silhet, Bombay (Mr. Law and Mr. Dalzell). In our stove it blossoms in March. Our dried specimens do not exhibit the spots on the leaves.

Descr. *Stem* fruticose, 2–3 feet or more high, terete, and, as well as the lax branches, marked or ringed with the scars of fallen leaves. *Leaves* mostly confined to the upper extremity of the branches; young ones often clothed with scales or abortive leaves, which are broad at the base and thence subulate, or bearing an imperfect lamina; perfect leaves varying from 3 to 4 inches to a span long, generally spreading, petiolate, coriaceo-membranaceous, elliptical-lanceolate, glossy, acute and mucronate, closely marked with parallel longitudinal lines or striæ, full green; in β spotted or blotched with yellow. *Petiole* $\frac{1}{2}$ inch to 2–3 inches long, grooved, dilated, and amplexicaul at the base. *Panicle* terminal, rarely lateral, branched to the very base, and there often bracteated or leafy; *branches* spreading, strict, bearing *racemes* of pale, yellow-green *flowers*, which are rarely solitary, mostly in pedicellate fascicles of threes, each fascicle subtended by a small subulate *bracteole*. *Perianth* varying in size from half an inch to an inch long; *tube* half as long as the limb, inflated below; *segments* of the limb spreading, linear; *stamens* as long as the limb. *Ovary* oval. *Style* flexuose, as long as the stamens. *Stigma* capitate, three-lobed in the centre. *Berries* the size of large peas, three-seeded, or by abortion two- or one-seeded.

Fig. 1. Flower. 2. Pistil:—*magnified.*

Tab. 4788.

RHODODENDRON cinnabarinum; var. *pallidum.*

Cinnabar-flowered Rhododendron; pale var.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *cinnabarinum;* foliis lato-lanceolatis acutis marginibus revolutis brevi-petiolatis supra glabris subtus pallidis rufisve squamuloso-punctatis, floribus umbellato-capitatis, lobis calycinis ovalibus oblongisve subinæqualibus grosse glanduloso-squamosis, corollæ campanulato-infundibuliformis lobis rotundatis plerumque acutis, staminibus 10, filamentis basi pilosis ovario 5-loculari furfuraceo.

α; foliis minute reticulatis subtus ferrugineo-squamulosis, calycis lobis angustis valde inæqualibus, corollæ (cinnabarinæ) lobis acutis.

Rhododendron cinnabarinum. *Hook. fil. Rhod. Sik. Himal. t.* 8; *et in Journ. of Hort. Soc. v.* 7. *p.* 101.

β; foliis latioribus subtus omnino ferrugineis, lobis calycinis obtusis subæqualibus, corollis intense roseis.

Rhododendron Roylei, *Hook. Rhod. Sik. Himal. t.* 7.

Var. foliis subtus glaucis, lobis calycinis subæqualibus obtusis, corollis pallidis, fauce supra sanguineo-irrorata. (Tab. Nostr. 4788.)

Already, since the publication of the two species above quoted in Dr. Hooker's 'Rhododendrons of Sikkim-Himalaya,' that author has felt it right to consider them mere varieties of one and the same species; and now we have in cultivation at the Royal Gardens of Kew what he considers a third variety, with leaves, in shape, resembling those of the original type of *R. cinnabarinum*, but pale-coloured beneath, with a calyx resembling that of the *R. Roylei*, and corollas paler than either of those two kinds, and having the faux above sprinkled with dark sanguineous dots. This produced its blossoms in a cool greenhouse in the early part of May of the present year 1854. The species is a native of Eastern Nepal, Sikkim, and Bhotan, in valleys and on the tops of mountains in very damp regions, and at elevations above the sea-level of from 10,000 to 12,000 feet. The species is as-

suredly a variable one, and neither of the figures in the 'Rhododendrons of Sikkim-Himalaya' (under the names of *R. cinnabarinum* and *R. Roylei*), Dr. Hooker says, "gives a good idea of the plant, which forms a rather elegant bush, about eight feet high, conspicuous in May and June from its elegant blossoms, which form very loose and graceful heads of long pendulous flowers. The figures are from stunted specimens, in very exposed situations; the leaves are not usually reticulated, except under these circumstances. It is universally considered poisonous to cattle and goats; of the latter I have seen many die from eating either of this or of a species of *Andromeda*. If employed as fuel, the smoke causes the eyes to inflame and the cheeks to swell."

Descr. A *shrub*, with erect or moderately patent branches. Our plants have not as yet attained a greater height than $2\frac{1}{2}$ feet; bark reddish-brown. *Leaves* usually broad, lanceolate, but sometimes nearly elliptical, subcoriaceous, acute and mucronated, on short *petioles*, penninerved, the margins recurved, full green and naked above, pale and often glaucous green beneath, sometimes rusty, dotted with minute scales, which vary in colour, brown or pale green. *Flowers* in an irregular *umbel* or *cyme*, terminal, at first scaly, with large imbricated bracteal scales. *Calyx* usually of five, short, nearly equal, oval or rounded, very obtuse lobes, scaly on the outside, one (the largest) sometimes setigerous; or the lobes are longer and narrower, with one lobe (upper one) a good deal longer than the rest. *Corolla*, in our variety, full rose-colour, between infundibuliform and campanulate, the limb broad, spreading, the lobes subrotund, more or less acute, the upper one within (at the faux) dotted with numerous sanguineous spots. *Stamens* 10, deflexed, unequal, shorter than the corolla. *Filaments* villous at the base. *Anthers* dark purple. *Ovary* oblong, very scaly. *Style* as long as the longest stamen. *Stigma* obtuse.

Fig. 1. Stamen. 2. Calyx and pistil. 3. Ovary. 4. Section of ovary :—*magnified*.

Tab. 4789.

SCUTELLARIA villosa.

Shaggy Skull-cap.

Nat. Ord. Labiatæ.—Didynamia Gymnospermia.

Gen. Char. *(Vide Supra,* Tab. 4268.)

Scutellaria *villosa;* caule acute tetragono ramoso, foliis petiolatis cordato-ovatis mollibus acuminatis grosse sinuato-dentatis rugosis pilis tenuissimis albis patentibus villosis subtus purpureis, racemis terminalibus multifloris brevibus corymbosis, bracteis parvis herbaceis, floribus glanduloso-villosis, corollæ (coccineæ) tubo elongato gracili infundibuliformi lobis abbreviatis.

Native of the Andes of Peru, whence rooted plants were sent to us in 1842, by Mr. Nation. The plant proves to be a new species, allied indeed to *S. cordifolia*, Benth. (see our Tab. 4290), having similarly large scarlet flowers, and more or less cordate leaves, but essentially different in the more compact habit, short corymbose racemes, discoloured, softer, very coarsely sinuato-serrated leaves, and above all in the copious long spreading slender white hairs of the foliage, and in the glandular hairs of the flowers, which are particularly long on the calyx. With us it flowers in the stove in the early spring months, and is assuredly a great acquisition to our collections.

Descr. *Stem* erect, scarcely a foot high in our plants, sparingly branched, tetragonous, purplish-green, hairy with rather short spreading hairs: *branches* short, opposite. *Leaves* spreading, opposite, petiolate, cordato-ovate, acuminate (with a narrow joint), soft in texture, wrinkled with the sunken reticulated veins, green above, purple beneath, the margin deeply sinuato-dentate; above, beneath, and at the margin quite villous, with soft, very slender spreading hairs. *Petioles* about an inch long, hairy. *Raceme* terminal, short, almost sessile, corymbose, many-flowered. *Flowers* scattered on the rachis, externally wholly clothed with spreading hairs, which are especially long on the calyx, and all are tipped with a minute globose *gland*. *Bracteas*

small, oblong-lanceolate, herbaceous, scarcely so long as the short, scattered pedicels. *Calyx* small, tubular, oval, two-lipped, green; scale large, spreading. *Corolla* an inch and a half long, rich scarlet. *Tube* slender, infundibuliform, angled. *Limb* short in proportion to the tube, two-lipped; *upper lip* galeate, three lobed (lateral lobes united with it); *lower lip* undivided, the sides deflexed. *Stamens* included. *Ovary* deeply four-lobed, seated on a large fleshy base, or *gynophore*, with a curved neck. *Style* as long as the corolla, and concealed within it, dilated upwards. *Stigma* subulate.

Fig. 1. Flower. 2. Pistil and gynophore, *magnified*.

Tab. 4790.

FRANCISCEA eximia.

Beautiful Franciscea.

Nat. Ord. Scrophulariaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4583.)

Franciscea *eximia;* foliis lato-lanceolatis acuminatis brevipetiolatis opacis obscure venosis subtus subglaucescentibus, cymis paucifloris, calycibus elongatis cylindraceis paululum curvatis pubescentibus apice quinquedentatis hinc fissis spathæformibus, corollæ limbo amplo tubum æquante.

Franciscea eximia. *Scheidweiler, in Gard. Mag. of Bot. v.* 2. *p.* 16. 2. *p.* 177. *cum Ic.*

We made a brief allusion to a "*Franciscea eximia*" under our *Franciscea calycina,* Tab. 4583, but could only speak of it then as a plant so named in cultivation. It has since been figured in the work above quoted; but the calyx, on which the main character depends, is so imperfectly represented, that but for the more accurate descriptive character it would be difficult, if not impossible, to say how it differed from *F. calycina,* save by the longer, narrower, and more opaque leaves, which indeed are not very constant to their shape in either species. In *F. calycina* the calyx (as shown at fig. 2) is perfectly glabrous, straight, inflated, and divided at the apex into five moderately long, equal, and rather spreading teeth. The calyx of our present plant is elongated, curved, cylindrical, not inflated (except possibly in fruit, which we have not seen), five-toothed; the teeth straight or a little incurved, and the superior sinus split down for some way, from which cleft the tube of the corolla is slightly protruded: the calyx hence becomes spathaceous. The flowers are very beautiful when first expanded, but soon fading to white or whitish,—characteristic, it would appear, of all the *Franciscææ.* The plant does not appear to have been taken up by any author but Scheidweiler, and is stated to

be discovered by M. Libon, in the environs of Villa Franca, Brazil, and introduced to Brussels by M. de Jonghe. It is a free flowerer; and a bush, at the time we write, early in March, is quite gay with the large purple blossoms, in a warm stove; and we have received fine specimens at the same season from Mr. Moore, of Chelsea, not only of this, but also of *F. calycina*, exhibiting the same characters as we have above noticed.

Descr. An erect, branching *shrub*, 2–3 feet high; branches terete. *Leaves* petiolate, broad, lanceolate, subcoriaceous, acuminate, opaque, rather obscurely penniveined, pale beneath: *petiole* short, about half an inch long. *Flowers* terminal, from two to four or five from a branchlet, large, handsome. *Calyx* elongated, cylindrical, not at all inflated, slightly curved, downy, an inch and a quarter long; *limb* of five, short, linear-lanceolate, erect or slightly curved, teeth, one of the sinuses cleft much deeper down than the rest. *Corolla* large, handsome, when first opening rich purple, by the second day fading almost to white. *Tube* long, slender, a little exceeding the calyx in length, and where exserted having a peculiar flexuous curve, which brings the broad limb into an oblique position; lobes of the *limb* subrotund, spreading horizontally, *faux* a little elevated, forming a white ring. *Stamens*, as in the genus, included. *Style*, as long as the tube of the corolla, dilated upwards. *Stigma* obscurely two-lobed.

Fig. 1. Calyx. 2. Represents the calyx of *Franciscea calycina*:—*both slightly magnified.*

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Tab. 4791.

GARDENIA globosa.

Globe-fruited Gardenia.

Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

Gen. Char. Calycis tubus ovatus, sæpe costatus, limbus tubulosus truncatus dentatus partitusve. *Corolla* infundibuliformis aut hypocraterimorpha; *tubo* calyce multo longiore; *limbo* per æstivationem contorto patente 5–9-partito. *Antheræ* 5–9, lineares, ad faucem subsessiles. *Stigma* clavatum, bifidum aut bidentatum, lobis crassis erectis. *Ovarium* dissepimentis incompletis 2–5 semidivisum, 1-loculare. *Bacca* carnosa, calyce coronata, intus chartacea aut nucleata, incomplete 2–5-locularis. *Semina* minuta, placentis parietalibus carnosis immersa. *Embryo* albuminosus, vagus.—Arbores *aut* frutices (*gerontogeæ*) *inermes aut spinescentes.* Folia *opposita, raro verticillata, ovalia.* Flores *axillares aut terminales, plerumque solitarii, albi, demum sæpe florescentes, sæpius odori.—DC.*

Gardenia *globosa;* foliis lato-lanceolatis brevipetiolatis glaberrimis, floribus terminalibus solitariis, calycis limbo brevi 5-dentato intus villoso, corollæ tubo omnino campanulato limbo profunde 5-lobato lobis patentibus acutis fauce villosa, ovario oblongo, fructu globoso majore.

Gardenia globosa. *Hochstett. Flora, v.* 25. *p.* 237 (*note*). *Walpers, Rep. Bot. v.* 2. *p.* 944. *Krauss, Fl. Natal. p.* 66.

A shrub of Natal, South Africa, first detected by Dr. Krauss, since imported to our collections by Messrs. Backhouse, York Nursery, through their friend Mr. Andrew Steedmann. The "globose" fruit I have not seen, but there can be no doubt, I think, of the identity of the species with the *G. globosa* of Hochstetter and Krauss. Messrs. Backhouse learn, from Mr. John Brownlee, missionary at King William's Town, in Caffraria, that the fruit of some of the South African species of *Gardenia* is eaten, when mellowed, like that of the medlar. The present is a greenhouse plant, where it forms an erect shrub, bearing its white, very fragrant flowers, in a small-sized pot, in the month of June.

Descr. Moderately-sized *shrub*, much branched, with opposite, spineless *branches*, which are clothed with a smooth, reddish-brown *bark*. *Leaves* opposite, 3–4 inches long, between

membranaceous and coriaceous, broad-lanceolate, moderately acuminated, entire, glabrous, shortly petiolated, penninerved. *Stipules* rather small, from a broad base, subulate, close-pressed. *Flowers* terminal, solitary, fragrant, nearly sessile. *Calyx*, the adherent *tube* oblong-cylindrical, the free portion small, cup-shaped, the margin five-toothed, the inside lined with hairs. *Corolla* moderately large, white, or rather cream-white. *Tube* campanulate, an inch long, singularly broad, the very base alone contracted, which fits into the narrow limb of the calyx; slightly again contracted at the mouth, and there clothed with yellow spreading hairs; the *limb*, spreading horizontally, of five large, broad, subrotund, acute lobes. *Stamens* five, linear, sessile, attached some way down in the tube, so as not to have any portion exserted. *Style* also included, inserted in a fleshy *disc* or *annulus*, club-shaped, gradually passing into the bifid *stigma* whose apices are reflexed.

Fig. 1. Corolla:—*nat. size.* 2. Pistil; a portion of the calyx-limb being removed. 3. Stamen, front view. 4. Ditto, back view:—*magnified.*

Tab. 4792.

CATASETUM Naso, *varr.*

Proboscis Catasetum, vars.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Perianthium sæpius globosum, nunc explanatum. *Sepala* et *petala* subæqualia. *Labellum* crassum, carnosum, nudum, ventricosum vel explanatum, fimbriatum, sub apice saccatum, obsolete trilobum. *Columna* erecta, aptera, libera, apice utrinque cirrhosa. *Anthera* sub-bilocularis, antice truncata. *Pollinia* 2, postice biloba vel sulcata; *caudicula* maxima nuda demum elastice contractili; *glandula* cartilaginea, subquadrata.—Herbæ *terrestres, epiphytæ*; caulibus *brevibus fusiformibus, vestigiis foliorum vestitis.* Folia *basi vaginantia, plicata.* Scapi *radicales.* Flores *speciosi, racemosi, virides, nunc purpureo-maculati.*—*Lindl.*

Catasetum (§ Myanthus) *Naso;* spica brevi erecta, sepalis oblongo-lanceolatis complicatis petalisque lanceolatis adscendentibus æqualibus, labello hemisphærico apice abrupte in appendicem carnosam ovatam obtusam producto, marginibus basi tenuibus laceris amplexicolumnibus, linea intramarginali carnosa inflexa connivente ostium cordiforme efficiente. *Lindl.*

Catasetum Naso. *Lindl. Bot. Reg.* 1843. *Misc. p.* 71. *n.* 11, *and* 1844, *Misc. p.* 36. *n.* 18.

"Native of Caraccas, *Mr. Linden.* This is a singular plant, whose flowers before opening might be mistaken for *C. tridentatum*, but when expanded they are totally different. The sepals and petals, which are very pale dull green outside, are slightly pink inside, and richly spotted, in irregular bars, with a deep crimson-purple. The lip is a most singular organ, and very difficult to describe. Viewed from the side it has a hemispherical form, and is green, except at the point, where it is extended into a long flat horn or nose. Seen in front it is almost wholly of the same rich black-purple, and looks as if it were a solid hemisphere pierced in the middle with a large heart-shaped hole; but this appearance is owing to a thick fleshy rim, which rises from within the true edge of the lip, and directing itself inward horizontally, with an uneven outline, at last touches in front of the column, and presents the appearance of a junction." *Lindl.*

July 1st, 1854.

Such, as we have given above, are the specific characters and description of Dr. Lindley of the very curious *C. Naso*. Of that identical state of the plant I have seen no specimen, nor have I seen any figure. Drawings of the two kinds of flowers here given (our Tab. 4792, fig. 1 and 2, from the gardens at Syon), were submitted to Dr. Lindley, who considers them to be varieties of *C. Naso*; as such we represent them, with a feeling however upon our minds that they may all be sports of the original *C. tridentatum;* the foliage and pseudo-bulbs seem to be the same in all.

Var. 1. Floribus viridibus, labelli apice 3–4-lobo, lobis lanceolatis, sepalis petalisque integerrimis. Tab. Nostr. 4792, fig. 1.

Var. 2. Sepalis viridibus integerrimis, petalis magnis grosse lacerato-serratis, disco 2–3-dentatis (labelloque) purpureo-sanguineis, labello apice lobo solitario seu proboscideo. Tab. Nostr. 4792, fig. 2.

Our second variety, in the proboscideous apex of the labellum, approaches perhaps nearest to the normal form of *C. Naso*.

Fig. 1. Spike of our var. 1. 2. Single flower of our var. 2 :—*nat. size*.

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Fitch del. et lith

Vincent Brooks Imp.

Tab. 4793.

BUDDLEIA crispa.

Crisped-leaved Buddleia.

Nat. Ord. Scrophularineæ.—Didynamia Angiospermia.

Gen. Char. Calyx 4-dentatus vel semi-4-fidus. *Corollæ* tubus brevis, subcampanulatus vel elongatus; *limbus* patens vel rarius suberectus, laciniis brevibus. *Stamina* 4, ad faucem inserta, *antheris* subsessilibus; vel in medio tubo inserta, *antheris* faucem subæquantibus inclusisve. *Stylus* integer, apice clavatus, parte stigmatosa crassa capitata, vel basi decurrente, biloba. *Capsula* septicide bivalvis; *valvulis* bifidis subintegrisve, marginibus inflexis, columnam placentiferam nudantibus. *Semina* numerosa, parva, compresso-fusiformia vel discoidea; *testa* laxiuscula, sæpe in alam membranaceam subexpansa, reticulata. *Embryo* parvus vel rarius dimidium seminis superans.—Arbores, frutices *vel* herbæ *Americam calidiorem, Africam australem vel Asiam Indicam habitantes, sæpissime tomento vel lana vestitæ, in ramulis junioribus, foliorum pagina inferiore, pedunculis calycibusque et interdum etiam in corollis copioso, in pagina superiore foliorum et in ramis adultis demum sæpius deraso.* Folia *opposita.* Pedunculi *cymoso-multiflori, axillares vel sæpius in* thyrsum *vel* paniculam *terminalem dispositi. Benth.*

Buddleia (§ Glomeratæ) *crispa;* tomento denso ferrugineo vel canescente, foliis plerisque petiolatis margine crenatis inferioribus basi cordatis sæpe crassis rugosis utrinque tomentosis, capitulis densis plurifloris pedunculatis, paniculа oblonga vel subracemosa, corollæ tubo calycem subcampanulatum duplo superante. *Benth.*

Buddleia crispa. *Benth. Scroph. Ind. p.* 43. *Wall. Cat.* 6404. *Benth. in De Cand. Prodr. v.* 10. *p.* 444.

Reared by Mr. Moore at the Glasnevin Botanic Garden, from seeds sent by Major Madden, from near Almorah, Western Himalaya, at an elevation of 5500 to 7500 feet above the level of the sea; and a very desirable shrub it proves to be to our gardens, being hardy, like the *B. globosa*, that is, only requiring protection of a wall, when it bears our winters unharmed, and has the advantage of flowering from the beginning of February until the beginning of May, scenting the atmosphere around with its fragrance. It has, perhaps, a rather extensive range in Northern India. We possess specimens (besides those from Major Madden) from Dr. Wallich, its discoverer, gathered at

Kamaon (where Messrs. Strachey and Winterbottom also found it), Saharungur and Sermoie; from Simla, Lady Dalhousie (communicated also by the late Mr. Fielding); from Affghanistan, Griffith, n. 613, and from Chibil Tun and Zahree, Scinde, by Dr. Stocks (n. 867).

Descr. A *shrub*, twelve to fourteen feet high. *Branches* opposite, obtusely tetragonal, the younger ones densely covered with tawny or ferruginous down. *Leaves* on woolly *petioles* one-quarter of an inch to one inch long, ovate or oblong, the lower ones cordate at the base, upper ones cuneate, thick, tomentose, densely so beneath, with ferruginous or cinereous tomentum, the margins toothed and crisped, rarely entire, except in the upper leaves. *Flowers* arranged in *capitula*, or in dense *whorls*, constituting *spikes* or *racemes*, and these, from the many short flowering-branches, forming *panicles*. The lower portions of the spikes have leaf-like *bracteas*, the upper are bractless. *Calyx* oval, downy, nearly half the length of the tube of the corolla, four-toothed; teeth erect, obtuse. *Corolla* salver-shaped, lilac, with a white eye; *tube* cylindrical, downy; *limb* in breadth nearly equal to the length of the tube, spreading horizontally, deeply four-lobed, lobes broadly obcordate, waved and crenulated, the *mouth* or *faux* contracted, orange-coloured. *Stamens* four, inserted below the middle, and quite included; *filaments* short; *anthers* short, oblong. *Pistil* quite included. *Ovary* ovate, downy, except at the very base. *Style* very short. *Stigma* clubbed, bifid.

Fig. 1. Flower. 2. Corolla laid open. 3. Pistil:—*magnified.*

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Tab. 4794.

CLEMATIS BARBELLATA.

Beardletted Traveller's-joy.

Nat. Ord. Ranunculaceæ.—Polyandria Monogynia.

Gen. Char. Involucrum 0, aut calyciforme sub flore. *Sepala* 4–8, colorata. *Petala* 0 aut plana, sepalis breviora. *Caryopsides* 00, in caudam sæpius barbato-plumosam productæ.—Radices *perennes*. Folia *exacte opposita*. *De Cand.*

Clematis (§ Cheiropsis) *barbellata;* foliis ternatim sectis, pedunculis aggregatis unifloris folia subæquantibus, floribus nutantibus, staminibus perianthio fere $\frac{1}{2}$ brevioribus, filamentis planis lanceolatis ciliatis, antheris introrsis dorso dense pilosis.

Clematis barbellata. *Edgeworth, in Linn. Trans. v.* 20. *p.* 25. *Hook. fil. et Thoms. Fl. Indica, p.* 5 (*ined.*).

Clematis Nipalensis, *Royle, Illustr. p.* 51 (*excl. syn.*).

Native of the Western Himalaya, where, about Garhwal, it appears to have been first detected by Dr. Royle and Mr. Pakenham Edgeworth, and first distinguished as a species by the latter gentleman (from whom we have received native specimens) in the Linnean Society's Transactions above quoted. Messrs. Strachey and Winterbottom found it at Kamaon, at an elevation of 10,000 feet: and Major Madden, who introduced it by seed to the Glasnevin Botanic Garden, Dublin, met with it in woods between Kamaon and Simla, at elevations varying from 8000 to 10,000 feet above the level of the sea. Mr. Edgeworth constitutes of it a new section or subgenus (*Bebæanthera*), differing from *Cheiropsis*, in wanting the involucra, and in the introrse anthers; but Drs. Hooker and Thomson refer it to § *Cheiropsis*, whose character they consider mainly to rest on the single-flowered peduncles: and they give another Indian species belonging to it, with introrse anther, viz. *C. acutangula*, Hook. fil. et Thom. *C. barbellata* is a very pretty species, bearing numerous, large, chocolate flowers, with cream-coloured borders to the sepals. Mr. Moore, who sent the specimens here figured from

Glasnevin, considers the species hardy, a free bloomer, and as contrasting well with *C. montana*, which is beautifully in flower in company with it in May, 1854.

Descr. Climbing. *Stems* and *branches* slender, woody, striated, slightly hairy, obscurely striated. *Leaves* from a nodus, and clustered or subverticillate, ternately trisected, on long *pedicels*, each *leaflet* or *segment* petiolate, ovate, much acuminated, coarsely serrated, reticulately veined, bifid or (especially the side leaflets) trifid, glabrous. *Peduncles* from the same nodus as the leaves, 3–4 inches long, fascicled, spreading, hairy, single-flowered. *Flower* drooping, large, monœcious (Edgew.). *Sepals* large, erecto-patent, so as to form a campanulate *perianth*, each ovato-acuminate, three-nerved, slightly coriaceous, chocolate-coloured, the edge white or cream-coloured, and downy. *Stamens* numerous, erect, flattened, little more than half the length of the perianth. *Filaments* broad, lanceolate, membranaceous, hairy and ciliated, bent at the base. *Anther* oblong, terminal, basi-fixed, opening introrsely, glabrous within, the back with a dense tuft of hairs. *Pistils* several, erect. *Ovary* ovate, glabrous or bearded on the under side only. *Style* long, subulate, villous except at the apex, which is slightly recurved and terminated with the simple, obtuse *stigma*.

Fig. 1. Stamen. 2. Pistil:—*magnified*.

Fitch del et lith

Vincent Brooks Imp

Tab. 4795.

SPIRÆA grandiflora.

Large-flowered Spiræa.

Nat. Ord. Rosaceæ.—Icosandria Pentagynia.

Gen. Char. Calyx tubo concavo v. campanulato, *limbo* quinquepartito, persistente, laciniis æstivatione remotis. *Corollæ petala* quinque, calycis fauci inserta, ejusdem laciniis alterna, ovata, unguiculata, patentissima. *Stamina* 20, rarius 30–60, calycis fauci bi-pluriseriatim v. fasciculatim inserta, longe exserta; *filamenta* filiformia, libera; *antheræ* biloculares, longitudine dehiscentes. *Discus* carnosus, cum calycis tubo connatus, margine adnato obsoleto, v. libero crenulato v. dentato. *Ovaria* 5, rarius 3 v. 12, in fundo calycis sessilia v. breviter stipitata, unilocularia, libera. *Ovula* 2–15, suturæ ventrali biseriatim inserta, pendula v. rarissime adscendentia, anatropa. *Styli* terminales, recti v. rarissime e basi geniculata adscendentes; *stigmata* plus minus incrassata v. dilatata, integra. *Folliculi* capsulares 3–12, liberi v. rarissime in capsulam subcoaliti, sutura ventrali apice bivalves. *Semina* 2–15, pendula v. rarissime adscendentia. *Embryonis* exalbuminosi, orthotropi; *radicula* umbilico proxima, supera vel rarissime infera.—Herbæ *v.* suffrutices, *v.* frutices, *in temperatis hemisphæriæ borealis crescentes;* foliis *alternis simplicibus v. simpliciter aut composite imparipinnatis*, stipulis *geminis petiolo adnatis, interdum minimis v. penitus obsoletis*, floribus *axillaribus terminalibusque, racemosis, corymbosis, cymosis, paniculatis v. interdum fasciculatis, albis v. rarissime roseis, nonnunquam abortu polygamis vel dioicis. Endl.*

Spiræa *grandiflora;* foliis lanceolatis mucronulato-apiculatis integerrimis, floribus in racemis plurifloris erectis terminalibus, calycis tubo late turbinato (disco toto carnoso) basi contracto ore expanso subrecurvo extus basi bracteolato limbi lobis rotundato-ovatis ciliatis, petalis magnis rotundatis, ovariis 5 liberis biovulatis, stigmate dilatato.

Amelanchier racemosa. *Fortune, MS.*

The present remarkable plant has been sent by Mr. Fortune, under the name of *Amelanchier racemosa*, from the north of China, to Messrs. Standish and Noble, of the Bagshot Nursery, where it bears the open air, blossoming in May, 1854: and it is certain that its conspicuous large flowers cannot fail to recommend it as a very desirable ornamental shrubbery plant. The habit and foliage are that of an *Amelanchier:* but the structure

of the flowers point to the genus *Spiræa*, as that to which, in the absence of the fruit, it must be referred, and unfortunately the frosts of the early spring soon destroyed the flowers, so that we have no knowledge of the perfect fruit. The calyx-tube is remarkable in form, much contracted below, then suddenly at the narrow faux expanded and recurved, and the whole lined with a fleshy disc, at the edge of which the fifteen stamens are inserted in threes. The species is extremely different from any hitherto described.

Descr. Apparently a moderately-sized *shrub*, with twiggy *branches*, clothed with brown *bark*. *Leaves* alternate, submembranaceous, lanceolate, two to three inches long, entire, acute and somewhat apiculated, penninerved, glabrous. *Petiole* half an inch long. *Stipules*, if any, soon deciduous. *Racemes* terminal, solitary, erect, bearing six to eight large, conspicuous, white flowers. *Pedicels* half an inch to an inch long, bearing a pair of small, opposite, deciduous *bracteoles* at the base of the calyx. *Calyx* turbinate: the lower part or *tube* much contracted (including the ovaries), then at the mouth suddenly expanding and slightly recurved, lined throughout with a fleshy disc. *Limb* of five, broadly oval, submembranaceous *sepals*, beautifully ciliated at the margin. *Stamens* about fifteen, inserted by threes at the edge of the fleshy disc of the calyx. *Petals* very large, subrotund, or somewhat obcordate, slightly unguiculate. *Ovaries* five, approximate, but quite free even to the base, in no way adherent to the calycine tube, one-celled, with two ovules. *Styles* five, quite free. *Stigma* dilated, reflexed, and furrowed within, the furrows extending some way down the inner side of the style.

Fig. 1. Flower. 2. Calycine tube laid open. 3. Stigma:—*magnified*.

Fitch del et Lith

Vincent Brooks Imp

Tab. 4796.

CASSIOPE fastigiata.

Fastigiated Cassiope.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. *Calyx* 5-partitus, persistens, basi nudus. *Corolla* campanulata, 5-loba. *Stamina* 10, inclusa; *filamentis* glabris; *antheris* brevibus, loculis tumidis apice longe apiculatis. *Stylus* basi crassus, conicus. *Stigma* obtusum. *Capsula* 5-locularis, 5-valvis; *valvis* apice bifidis medio septiferis. *Placenta* 5-loba. *Semina* oblonga, nitida, lucida.—Suffrutices *boreales humillimi, glabri, ericoidei, sempervirentes.* Folia *sparsa, conferta, sæpius imbricata.* Flores *solitarii, pedicellati, laterales aut terminales, rosei* (*v. albi*), *nutantes, interdum* 4-*meri* 8-*andri.*—*DC.*

Cassiope *fastigiata;* foliis dense 4-fariam imbricatis ovatis subtrigonis dorso profunde crasse carinatis carina longitudinaliter sulcatis marginibus scariosis albis sulcis labiisque pulcherrime ciliatis, floribus subverticillatis, pedicellis villosis, corollis lato-campanulatis albis, calycis lobis lanceolatis ciliato-serratis.

Cassiope fastigiata. *Don, Gard. Dict. v.* 3. *p.* 829. *DC. Prodr. v.* 7. *p.* 611.

Andromeda fastigiata. *Wall. Trans. Asiat. Soc. v.* 13. *p.* 304. *Plant. Rarior. Asiat. v.* 3. *p.* 51. *t.* 284. *Royle, Illustr. Himal. p.* 260. *t.* 63. *f.* 1.

Andromeda cupressiformis. *Wall. MSS. D. Don, Werner. Trans. v.* 3. *p.* 407.

For the opportunity of figuring this interesting and very rare plant we are indebted to Mr. Moore, of the Glasnevin Botanic Garden, who raised a single plant from Himalayan seeds, collected by Major Madden in North-western Himalaya, where it was abundant at elevations of from 12–13,000 feet (also gathered there by Messrs. Strachey and Winterbottom). Its native range is pretty extensive, being found in Gossan Than, by Dr. Wallich and Mr. Blinkworth, and abundantly in the mountains of Sikkim-Himalaya by Dr. Hooker, at elevations of from 10–14,000 feet.

In general habit it will be seen that this charming plant has much affinity with *Cassiope* (Andromeda, *L.*) *tetragona*, of Arctic Europe and America, figured at our Tab. 3181; but it is a larger plant, far more beautiful, and has leaves of quite a different and peculiar structure, having a white, silvery, finely ciliated margin, and a deep and broad keel, deeply furrowed on the back,

and the edges of the furrow also fringed with cilia. Such a species cannot fail to be a great favourite with all cultivators of alpine plants. It flowers with Mr. Moore in May.

Descr. Small *shrub*, very much branched, the *branches* decumbent, crowded, and subfastigiated. *Leaves* densely and closely imbricated in a quadrifarious manner (so that the branches are tetragonous), erect, sessile, ovate, concave, rather obtuse, coriaceous, with a deep carina at the back, and that carina has a deep furrow (fig. 1), so as to form the keel into two plates or ridges, united towards the apex, which are fringed at the edges; the leaf itself has a broad, white, silvery margin, beautifully fringed with cilia throughout the whole edge. *Peduncles* axillary, solitary, short, hairy, single-flowered, decurved, hairy; at the base are two or three bracteal fringed *scales*. *Flower* drooping, large for the size of the plant. *Calyx-lobes* lanceolate, acuminated, with a scariose, ciliato-serrated margin. *Corolla* white, broadly campanulate, the mouth spreading; *limb* of five, acute, patent *lobes*. *Stamens* quite included. *Filaments* subulate, glabrous. *Anthers* of two oval *cells*, opening with a large pore at the top, and each cell having a long, subulate, downy seta. *Ovary* subrotund, five-lobed, seated on a fleshy *disc*, from under which the stamens emerge. *Style* short, fusiform. *Stigma* obtuse.

Fig. 1. Back view of a leaf. 2. Interior of a leaf. 3. Flower and peduncle, and bracteal scales. 4, 5. Stamens. 6. Pistil:—*magnified*.

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Vincent Brooks Imp.

Tab. 4797.

RHODODENDRON citrinum.

Citron-flowered Rhododendron.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *citrinum;* pentandrum, foliis oblongo-ellipticis obtusis subtus pallidis punctato-squamulosis obscure venosis, squamulis concoloribus, floribus subumbellatis nutantibus, calycis minuti lobis subrotundis ciliato-glandulosis, corollis (citrinis) parvis campanulatis, limbi lobis æqualibus suberectis retusis, staminibus tubo corollæ vix longioribus, ovario oblongo nudo, stigmate convexo.

Rhododendron citrinum. *Hassk. Cat. Pl. Hort. Bot. Buitenz. p.* 161.

The Messrs. Rollisons, of Tooting, have placed before us (May, 1854) the charming shrub here figured, a pale lemon-flowered species of *Rhododendron* from Java, sent by their collector, Mr. Henshall. It was supposed to have been a new species, and in that case would have borne the name of the discoverer; but it is clearly the *R. citrinum* of Hasskarl, in his Cat. of the Bot. Garden of Buitenzorg, Java. In that island, the author tells us, it inhabits trunks of old trees in marshy mountains of Tjiburrum, 5000 feet above the sea-level. Mr. Henshall traced it up to an elevation of 9700 feet, but no higher. Its nearest affinity is with what we take to be *R. album* of Java; but, independent of this difference in the colour of the flowers, the leaves are much larger, always acuminated, and beneath densely clothed with ferruginous scales. The number of stamens is constantly five in each flower, and those declined, a little more than half the length of the corolla: they bear deep orange-coloured anthers, which contrast well with the pale corolla.

Descr. This plant forms a small, handsome, evergreen, greenhouse *shrub*, with glabrous green, terete *branches*, tinged with brown. *Leaves* on short *petioles*, spreading, the largest of them not more than two inches long, elliptical-oblong, obtuse, gla-

brous, coriaceous, obscurely penniveined, glabrous, dark green above, pale beneath, and there dotted with minute pale greenish (never ferruginous) *scales*: *costa* beneath sometimes tinged with red. *Peduncles* single-flowered, umbellate, terminal, often appearing lateral from the annotinous shoots, above reddish and squamulose; each bears a single, drooping, rather small *flower*. *Calyx* of five, very short, rounded, ciliato-glandular *lobes*. *Corolla* little more than three-quarters of an inch long, pale lemon-coloured, fragrant, almost exactly campanulate; *limb* of five, nearly erect, rounded, retuse *lobes*. *Stamens* five (!), declined, as long as the tube of the corolla, quite included therefore. *Filament* thick, a little dilated at the base. *Anther* oblong, deep orange, opening with two pores above. Hypogynous *gland*, a large, fleshy, waved ring. *Pistil* as long as the stamens. *Ovary* oblong, five-celled: *style* thickened upwards: *stigma* dilated, convex, radiated.

Fig. 1. Stamen. 2. Calyx and pistil. 3. Annular hypogynous disc and base of ovary:—*magnified*.

2

Vincent Brooks

Tab. 4798.

PRIMULA mollis.

Soft-leaved Bootan Primrose.

Nat. Ord. Primulaceæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4550.)

Primula (Primulastrum) *mollis;* acaulis, molliter hirsuto-pubescens, foliis longe petiolatis cordatis sinuato-lobatis crenulatis reticulatim villosis, scapo foliis longiore (petiolisque) patentim villosis, floribus verticillatis, verticillis 3–4-subquinquefloris, pedicellis bracteis longioribus, calycis laxi subampli tubo turbinato (intense rubro) dentibus patentibus viridibus, corollæ (intense roseæ) limbo obliquo laciniis obovatis bifidis.

Primula mollis. *Nutt. MSS.*

A charming new *Primula*, of the "Primulastrum" section, and intermediate as it were between *Primula Sinensis* and *P. cortusoides;* but very different from either in foliage, corolla, and especially calyx. It is a native of the mountains of Bootan, where it was discovered by Mr. Booth; and the plants were reared from seeds sent by him to his relative Mr. Nuttall (Rainhill, near Prescott), which flowered in April of the present year. That gentleman has hitherto treated it as a hardy greenhouse plant; but the probability is, it will be found to bear the open air, and may be considered to bear the same treatment as *P. cortusoides.*

Descr. *Root* perennial. Whole plant covered with soft pubescence or hairs. *Stem* none. *Leaves* all rising from the root, upon long terete *petioles*, which are clothed with long spreading hairs; the blade is almost exactly cordate, rather obtuse, with a deep but narrow sinus at the base; the margin sinuato-lobate and crenulate, reticulately veined and soft with pubescence, which is more copious beneath, and there the nerves are prominent. *Scape* longer than the leaves, villous with soft patent hairs, bearing three or four whorls of moderately-sized deep rose-coloured *flowers*. *Involucre* of two linear or subspathulate leaves.

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Pedicels three to five in a whorl, longer than the involucres. *Calyx* long in proportion to the corolla, lax; the tube turbinate, tapering at the base, deep red, villous: teeth five, acute, patent, green. *Corolla* with the tube somewhat infundibuliform, longer than the calyx, brick-red: *limb* broader than the tube is long, oblique, of five, spreading, horizontal, downy, deep rose-coloured lobes, bifid at the apex; round the mouth is a deep, blood-coloured spot, which sends out rays corresponding to each segment: at the mouth are five, erect, emarginate *scales*. *Stamens* about one-third of the way within the tube, and where the tube is a little inflated. *Filaments* extremely short: *anthers* oblong-subsagittate. *Ovary* subglobose (or having a somewhat rhomboidal outline). *Style* filiform, nearly as long as the tube. *Stigma* a flattened disc.

Fig. 1. Corolla laid open. 2. Pistil:—*magnified.*

Tab. 4799.

PITTOSPORUM FLAVUM.

Yellow-flowered Pittosporum.

Nat. Ord. Pittosporeæ.—Pentandria Monogynia.

Gen. Char. Calyx quinquefidus vel quinquepartitus. *Corollæ* petala 5, hypogyna, calycis foliolis alterna, unguibus erectis, in tubum conniventibus v. cohærentibus, apice patentia vel reflexa. *Stamina* 5, hypogyna, petalis alterna, inclusa; *filamenta* subulata, stricta; *antheræ* introrsæ, biloculares, subsagittatæ, erectæ, longitudinaliter dehiscentes. *Ovarium* sessile, incomplete bi-tri-quinqueloculare. *Ovula* plurima, semiseptorum marginibus utrinque inserta, anatropa. *Stylus* filiformis, brevis; *stigma* subcapitatum, obsolete emarginato-bi-tri-quinquelobum. *Capsula* subglobosa, ovata, ovato-conica v. obovata, angulata v. compressiuscula, incomplete bi-quinquelocularis, bi-quinquevalvis, valvis coriaceis, crassis, medio semiseptum margine seminiferum gerentibus. *Semina* plurima, resinoso-viscida, valvis apertis, sæpe in globum compacta, subglobosa, angulata vel plus minus complanata. *Embryo* in basi albuminis duri, prope umbilicum minimus, orthotropus.—Arbusculæ *v.* frutices, *in insulis Canariis, Capite Bonæ Spei, in insulis Borbonicis, Japonia et Archipelago Sandwicensi raræ, in India continente paullo frequentiores, copiosissime in Nova Hollandia extratropica et Nova Zelandia crescentes;* foliis *alternis, integerrimis v. interdum paucidentatis;* floribus *terminalibus v. axillaribus, solitariis v. corymbose aggregatis, bracteatis. Endl.*

Pittosporum *flavum;* foliis late obovato-lanceolatis brevi-acuminatis integerrimis coriaceis glabris basi in petiolum breviusculum attenuatis, pedunculo terminali, corymbis compositis bracteatis pubescentibus, sepalis ovato-lanceolatis acutis, petalis (flavis) extus dense sericeis longe unguiculatis, filamentis pubescentibus, ovario cylindraceo-elongato sericeo, stigmate bilobo.

One of the finest species yet known of the genus. Specimens were some time ago sent to us as gathered at Port Stephen, East Australia, by Allan Cunningham. More recently we have received specimens from the late Mr. Bidwill, collected in the Wide Bay district, and a drawing from Captain Phillip King, who considered it would form the type of a new genus: but we do not see how it differs generically from *Pittosporum*. The seeds, however, which we have not seen, are said to be winged: and the name proposed for it was "*Hymenosporum*." Our plants, introduced by Mr. Bidwill, flowered in February, 1854.

August 1st, 1854.

Descr. Our plant forms a moderate-sized shrub, a good deal branched. *Leaves* usually alternate, but sometimes opposite and even subverticillate, the largest of any species known to me, sometimes almost a span long, broadly obovato-lanceolate, shortly acuminated, tapering into a short *petiole*, the texture is coriaceous, the margin entire; veins pinnated; colour paler beneath. *Corymb* of yellow, large *flowers*, compound, on a terminal peduncle. *Pedicels* downy. *Bracteas* linear-subulate, lower ones subinvolucrate. *Calyx* of five, erect, concave, pointed, silky *sepals*. *Corolla*: *petals* with the *lamina* obovate or wedge-shaped, streaked with orange at the base; the *claws* very long, straight, and approximated into a tube, silky on the outside. *Stamens* five, longer than the claws. *Filaments* subulate, downy: *anthers* oblong-sagittate. *Ovary* much elongated, cylindrical, very silky, as long as the claws of the petals: *style* short: *stigma* two-lobed.

Fig. 1. Stamen. 2. Petal. 3. Pistil :—*magnified*.

Tab. 4800.

DRIMYS Winteri.

Winter's Bark.

Nat. Ord. Magnoliaceæ.—Polyandria Monogynia.

Gen. Char. Flores hermaphroditi. *Calyx* æstivatione clausus, valvatim dehiscens, bi-tripartitus, laciniis concavis, persistentibus. *Corollæ* petala 6–24, hypogyna, uni-biseriata, patentia, decidua. *Stamina* plurima, hypogyna, juxta torum brevissime stipitiformem inserta, pluriseriata; *filamenta* late linearia, complanata. *Antheræ* parvæ, biloculares, loculis subrotundis, extrorsum adnatis, longitudinaliter dehiscentibus. *Ovaria* 2–8, in summo toro verticillatim sessilia, dorso gibba libera, unilocularia. *Ovula* juxta suturam ventralem 6–9, biseriatim pendula, anatropa. *Stigmata* in ovariis subterminalia, sessilia, mammillæformia. *Baccæ* obovato-gibbæ, sessiles. *Semina* abortu pauca, inversa, obovata; testa crustacea. *Embryo* in basi albuminis carnosi, minutissimus, orthotropus; *radicula* supera.—Arbores *vel* frutices *in America a Mexico ad fretum Magellan, necnon in Nova Zelandia crescentes*, cortice *aromatico*, foliis *sparsis petiolatis estipulatis integerrimis subtus incanis vel glaucis*, calycibusque *et* petalis *plus minus pellucido-punctatis*, floribus *axillaribus, solitariis vel in apice ramulorum approximatis aut congestis, nunc umbellatis*, bracteis *involucrantibus caducissimis, squamulis gemmarum terminalium convolutis, acuminatis, caducis. Endl.*

Drimys *Winteri;* foliis ellipticis lanceolatisve subtus glaucis, floribus umbellatis 3-plurifloris, calyce diphyllo, petalis lanceolatis numerosis, ovariis subdecem.

Drimys Winteri. *Forst. Gen. p.* 84. *t.* 42. *De Cand. Prodr. v.* 1. *p.* 78. *Hook. fil. Bot. of Ant. Voy. v.* 2. *p.* 229.

Winterana aromatica. "*Sol. Med. Obs. v.* 5. *p.* 46. *t.* 1."

Wintera aromatica. *Murray, Syst. p.* 507. *Smith in Rees' Cycl.*

Drimys Granatensis. *Linn. fil. Suppl. p.* 269. *De Cand. Prodr. v.* 1. *p.* 78.

Vintera Granadensis. *Humb. et Bonpl. Pl. Æquin. v.* 1. *p.* 205. *t.* 58.

Drimys Chilensis. *De Cand. Syst. Veg. v.* 1. *p.* 444. *Prodr. v.* 1. *p.* 78. *De Lessert, Ic. v.* 1. *t.* 85. *Hook. et Arn. in Bot. Misc. v.* 3. *p.* 134.

Drimys Mexicana. *De Cand. Syst. v.* 1. *p.* 444. *Prodr. v.* 1. *p.* 78.

We are glad to be able to figure, from a living plant, a flowering specimen of a tree which once possessed some celebrity under the name of *Winter's Bark*, the use of it having been brought into notice by Captain Winter, who accompanied Sir Francis Drake, in the year 1578, to the Straits of Magellan, where it was first discovered. It afterwards became confounded

with the *Canella alba* of Jamaica, which has superseded it as a medicinal plant. Living plants have been several times imported, and in the south of England the species may possibly prove hardy. It has a most extensive range in its native country, South America; for, as we ventured to suggest, in the 'Botanical Miscellany,' that *Drimys Chilensis* must merge into *D. Winteri*, so Dr. Hooker has come to the conclusion that the *D. Granatensis* and *D. Mexicana* (and our own examination of specimens confirms this view) are also specifically identical, and that there is only one species in all South America. Thus this plant extends from Tierra del Fuego and Hermite Island, in the extreme south (there even ascending to 1000 feet of elevation), all along the west or Pacific side of the vast continent of South America, to New Granada, and even Mexico. Of course, as may be expected, there are many trifling variations throughout such a vast extent of territory, but no more than may be looked for under such circumstances. A distinct species of *Drimys* is found in New Zealand (*D. axillaris*, Forst.), and another has been recently found on the mountains of Borneo (*D. piperata*, Hook. fil.). All are pungent, aromatic, astringent, and antiscorbutic. Our plant flowers in June, and is treated as a hardy greenhouse plant.

Descr. In its native forests this *tree* attains a height of forty or fifty feet. The *branches* are clothed with reddish bark, and bear copious, handsome, evergreen foliage, everywhere quite glabrous. *Leaves* three to five inches long, alternate, coriaceous, elliptical or lanceolate, more or less acuminated, penni-nerved, the base obtuse or attenuated into the short *petiole*, bright full green above, pale and glaucous beneath; very aromatic. From above the axils of many of the upper leaves the *peduncles* have their origin, bearing from three to nine elongated pedicels in one umbel. *Peduncles* and *pedicels* generally bracteated. These *umbels* are often nearly as long as the leaves. *Flowers* moderately large. *Calyx* of two, ovate, very concave, almost boat-shaped *sepals*. *Petals* pale cream-yellow, eight to twelve, lanceolate, more or less acuminated, spreading. *Stamens* several, shorter than the calyx, and much shorter than the corollæ or even pistils. *Filaments* broad, almost lanceolate. *Anthers* two-celled, ovate; *cells* slightly apart. *Ovaries* about ten, club-shaped, erecto-patent. *Stigma* large, lateral, sessile.

Fig. 1. Flower from which the petals are removed. 2. Stamen. 3. Pistil: —*magnified.*

W. Fitch del et lith

Vincent Brooks Imp

Tab. 4801.

ACROCLINIUM roseum.

The Rose-coloured Acroclinium.

Nat. Ord. Compositæ.—Syngenesia Æqualis.

Gen. Char. Capitulum multiflorum, floribus omnibus tubulosis hermaphroditis v. exterioribus imperfectis. *Involucrum* late campanulatum, pluriseriale, squamis exterioribus scariosis interioribus seriatim longioribus radiantibus petaloideis. *Receptaculum* planiusculum v. conicum, ambitu subalveolatum. *Corollæ* tubuloso-infundibuliformes, 5-dentatæ. *Antheræ* basi breviter 2-setæ. *Styli* rami truncati, brevissime penicillati. *Achænia* turbinata, pilis niveis sericeo-villosa, interiora glabrata, callo basi obliquo. *Pappus* persistens, uniserialis, e paleis rigidis 10–20 basi subconcretis; *fl. fertil.* dense plumosis; *fl. steril.* tenuioribus sæpe paucioribus (6–12) minus plumosis apice nudis v. penicillatis.—Herbæ *haud lanatæ;* caules *e radice annua plurimi simpliciusculi ascendentes, foliosi, apice* 1-*cephali;* folia *alterna v. inferiora opposita linearia;* capitula *majuscula. Asa Gray, in Hook. Journ. Bot.* 1852. *v.* 4. *p.* 271.

Acroclinium *roseum;* glaberrimum, caulibus sulcatis, foliis linearibus acuminatis, involucri squamis exterioribus subappresse patentibus, receptaculo planiusculo pilosiusculo.

A native of the interior of South-west Australia, between the Moore and Murchison rivers, from whence the seeds were sent in 1853 by Mr. James Drummond, together with dried specimens (No. 157 of his Herbarium). It flowered freely in the Royal Gardens at Kew during the present summer, and forms a graceful greenhouse annual, conspicuous for its bright rose-coloured heads and pale stems and leaves. Our garden specimens are considerably larger than the wild ones, both in stature and the size of the flowers. Though differing from the previously-described species of *Acroclinium* in the flat receptacle, we have no hesitation in referring it to that genus, and have modified Professor A. Gray's generic character in consequence. The other species, of which three are enumerated in the 'London Journal of Botany,' are all natives of South-west Australia, as is a fifth and new one, sent to us from the same country by our intelligent correspondent Mr. Roe, the Colonial Surveyor.

August 1st, 1854.

Descr. *Stems* numerous, from a small, annual *root*, almost erect from the base, slender, one to two feet high, cylindrical, grooved, pale green. *Leaves* linear, sessile, acuminate, almost decurrent, quite glabrous, pale green, paler beneath, one to one and a half inch long. *Capitula* very variable in size, half an inch to two inches broad, rose-coloured, with a bright yellow eye, the colour of which is due to the yellow tips of the pappus. *Involucre* broadly hemispherical, of very many scales: the outer small and short, scarious, pale olive-green or brownish, closely imbricated and spreading, broadly ovate, blunt: the inner gradually longer, sharper, and gradually becoming red at the somewhat rigid tips; the three or four inner series are longest, linear-oblong, bright pink, radiating, but incurved, each sharp or obliquely truncated or notched at the point, and furnished with a broad concave claw. *Receptacle* quite flat, pitted towards the margin, papillose in the centre, covered loosely with short weak hairs. *Flowers* all tubular and hermaphrodite: the outer with large villous *achænia* and exserted linear branches to the style: the inner with smoother abortive *achænia* and short blunt branches to the style. *Pappus* of about fifteen to twenty paleæ, flattened and connected at the base, gradually thickened upwards, owing to the longer and more densely placed hairs on their margins and surface, terminating in a yellow club-shaped brush.

Fig. 1. Inner scale of the involucre. 2. Outer floret:—*magnified*.

TAB. 4802.

RHODODENDRON LEPIDOTUM; *var.* CHLORANTHUM.

Scaly Rhododendron; yellow-green-flowered var.

Nat. Ord. ERICEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

RHODODENDRON *lepidotum;* fruticulus ramosus, totus lepidotus, squamulis albidis ferrugineisve, foliis obovatis lanceolatis oblongisve apiculatis breve petiolatis pallide viridibus, pedunculis terminalibus solitariis 2–3-nisve erectis, sepalis 5 foliaceis obtusis, corollæ flavidæ v. purpureæ tubo brevi inflato, lobis patentibus late ovatis, staminibus 8 filamentis ciliatis, ovario 5-loculari, stigmate brevi decurvo. *Hook. fil. in Journ. Hort. Soc. Lond. v.* 7. *pp.* 80, 104.

RHODODENDRON lepidotum. *Wall. Cat. n.* 758. *Hook. Bot. Mag. t.* 4657.

Var. *chloranthum;* floribus flavo-viridibus viridi-maculatis.

RHODODENDRON salignum. *Hook. fil. Sikkim Rhod. t.* 23, *left-hand figure.*

This variety of *R. lepidotum* was detected by Dr. Hooker in Sikkim Himalaya, and at first considered a new species, to which he gave the name of *salignum*. Afterwards he saw the propriety of uniting it with the *R. elæagnoides*, and that again with *R. lepidotum*, of which it is assuredly a variety. The species has been already fully described at our Tab. 4657. Our var. *chloranthum* flowered with us this year readily in May in a cool frame.

Fig. 1. Stamen. 2. Calyx and pistil. 3. Transverse section of ovary:—*magnified.*

W Fitch del et lith.

Tab. 4803.

SENECIO præcox.

Early-flowering Tree Groundsel.

Nat. Ord. Compositæ Senecionideæ.—Syngenesia Superflua.

Gen. Char. Capitulum homogamum, discoideum, aut heterogamum, *fl. radii* ligulatis fœmineis. *Involucri* uniserialis nunc nudi nunc squamellis accessoriis calyculati *squamæ* sæpius apice sphacelatæ, margine subscariosæ, dorso frequenter binervatæ. *Receptaculum* epaleaceum nudum alveolatumve. *Styli fl. herm.* truncati, apiceque solo penicillati! *Achenium* erostre, exalatum, teretiusculum aut sulcato-angulatum. *Pappus* pilosus, pluriserialis, caducus, setis rectis subæqualibus tenuissimis vix scabris.—Herbæ *aut* frutices *innumeri polymorphi. Species per totum orbem terrarum divulgatæ, sed eædem in pluribus regionibus vix occurrentes.* Folia *alterna, in 2 tantum* (*dubiis*) *opposita.* Capitula *solitaria, corymbosa aut paniculata.* Cor. disci *fere semper luteæ, rarissime purpureæ, nunquam nisi cultæ albæ!* Ligulæ *etiam flavæ, varius purpurascentes aut albi. De Cand.*

Senecio *præcox;* glaber, caule fruticoso carnoso ramoso tereti, foliis petiolatis post anthesin plerisque nascentibus cordato-acuminatis subhastatis 5–7-lobatis carnoso-membranaceis lobis acutissimis, corymbis ramosis, pedicellis elongatis parce bracteolatis, involucro cylindraceo 8–10-phyllo subebracteato, ligulis 5–6 patulis, disci circiter 15, achenio glabro.

Senecio præcox. *De Cand. Prodr. v.* 3. *p.* 431.

Cineraria præcox. *Cav. Ic. v.* 3. *p.* 23 *t.* 244. *Willd. Sp. Pl. v.* 3. *p.* 2078. *Spreng. Syst. Veget. v.* 3. *p.* 546. *De Cand. Hort. Genev. t.* 7.

Nearly 600 species of *Senecio* were described by De Candolle in the volume of his 'Prodromus' published in 1837. Many have been discovered since, and, if all were as well marked as the species now before us, the study of them would not be attended with the difficulty which is known to be the case. Nor is this devoid of beauty. It constitutes a large shrub, with thick, succulent, woody stem, and terete branches, and attains a height of five or six feet even in our greenhouses; more, probably, in its native country. The large corymbs of flowers are produced in the early spring at the apices of the branches, and while the foliage is young; thence the specific name of *præcox.*

Descr. *Shrub* with straggling terete *branches*, about as thick

as one's finger, between fleshy and woody, much scarred from the fallen leaves. *Leaves* from the apices of the branches only, deciduous, on long terete *petioles*, cordate, much acuminate, subhastate, five- to seven-lobed; *lobes* very acuminate, spreading, the lower ones deflexed: the *texture* is between membranaceous and fleshy. Before the appearance of the leaves, or while they are only partially developed, the *corymbs* of flowers occupy the apex of the branch, and bear several elongated, partially bracteolated, yellow branches, thickened below the capitulum. *Flowers* numerous, large. *Involucre* cylindrical, of eight to ten, erect, nearly equal, linear-oblong, obtuse, glabrous *scales*, ebracteolate, or nearly so. *Florets* of the *ray* five or six, rarely more, distant, female: *ovary* oblong, crowned with the hairy *pappus*. *Ligule* oblong, yellow, three-toothed at the apex. *Style* with two recurved *stigmas*. *Tubular florets* about fifteen. *Ovary* and *pappus* as in the ligulate florets. *Corolla* tubular, the *limb* of five recurved linear segments. *Receptacle* pitted.

Fig. 1. Involucre laid open. 2. Floret of the ray. 3. Floret of the disc: —*magnified.*

Tab. 4804.

HEDERA GLOMERULATA.

Glomerulated Ivy.

Nat. Ord. Araliaceæ.—Pentandria Monogynia.

Gen. Char. Calyx tubo cum ovario connato, limbo supero, brevissimo, integro vel 5-dentato. *Corollæ petala* 5–10, *disci* epigyni margini inserta, libera, expansa. *Stamina* 5–10, cum petalis inserta, iisdem alterna v. opposita; *filamenta* brevia; *antheræ* incumbentes, biloculares. *Ovarium* inferum, 5–10-loculare. *Ovula* in loculis solitaria, pendula. *Styli* 5–10, erecti v. conniventes, aut in unicum cohærentes; *stigmata* simplicia. *Bacca* calycis limbo stylisque coronata, quinque-decemlocularis, loculis membranaceis monospermis. *Semina* inversa. *Embryo* in apice albuminis carnosi, *endopleuræ* processubus rugosi brevis, orthotropus, *radicula* supera.—Frutices *scandentes vel erecti, interdum arborescentes, inter tropicos totius orbis magno numero, parce in hemisphæræ borealis temperatis crescentes*, foliis *alternis, nunc simplicibus, integris v. lobatis, nunc compositis, digitatis vel rarissime pinnatis*, petiolis *basi vaginantibus*, floribus *capitatis*, capitulis ***racemoso-paniculatis. Endl.***

Hedera *glomerulata;* caule arboreo aculeato, foliis digitatis, foliolis subseptenis petiolulatis oblongis acuminatis serratis glabriusculis, panicula terminali longissima pendula, rachibus aculeatis, floribus (polygamis?) in capitula glomeratis.

Hedera glomerulata. *De Cand. Prodr. v.* 4. *p.* 265.

Aralia (Gynapteina) glomerulata. *Blume, Bijdr. p.* 871.

The limits of the genera *Hedera, Aralia, Panax, Sciodaphyllum*, and other genera of *Araliaceæ*, are very ill-defined, and differently understood by different botanists. That of *Hedera*, as above given from Endlicher, is intended to include several *Araliæ* of Linnæus and other authors, especially the section "*Gynapteina* of Blume," distinguished by having the styles united into one. Divided as botanists may be on the subject of the genus of the present plant, the species is a very remarkable one, and has attracted much attention in the stoves of the Royal Garden of Kew, where its singularly long pendent racemes (four to five feet long) are annually produced in April and May.

September 1st, 1854.

It is a native of Gede Mountain, Java, where it is known by the name of "Pangang," according to Blume. We received our plant from Mr. Makoy, of Liége, in 1847.

Descr. Our plant, with its ample foliage, has attained a height of seven feet, and is remarkable for its tree- or almost Palm-like character, erect, flexuose, scarcely branched, in the present instance only once forked, and leafy only at the extremity of these two branches, prickly on the branches and a little way down the stem; *prickles* subulate, slightly curved, spreading horizontally. *Leaves* large, on long petioles, swollen at the base, digitate, of about seven large leaflets, which are oblong-lanceolate, acuminated, serrated in their upper half, penninerved, glabrous. *Raceme* four to five feet long, pendent from the apex of the stem, and bearing at the end of the branches (which are sometimes again divided) large, capitate, quite globose, densely flowered *umbels* of a brownish or yellowish green colour. Main *rachis* and *peduncles* prickly. *Pedicels* downy. Male *flowers* (which only have appeared in our plant):—*Calyx* obscurely five-toothed. *Petals* five, spreading, ovate, thick and leathery, the apices inflexed and ragged. *Ovary* imperfect, imbedded in a large, fleshy, slightly lobed, yellowish *disc*. *Style* short, conical, single.

Fig. 1. Flower. 2. The same more expanded:—*magnified.*

Tab. 4805.

RHODODENDRON Maddeni.

Major Madden's Rhododendron.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *Maddeni*; frutex erectus virgatus, ramulis pedunculis petiolis foliisque subtus ferrugineo-lepidotis, foliis petiolatis elliptico-lanceolatis utrinque acutis acuminatisve marginibus planis superne nitidis viridibus, pedunculis 3 terminalibus brevibus crassis, calycis brevis 5-fidi lobis inæqualibus (supremo nunc elongato), corolla extus lepidota ampla, tubo elongato infundibuliformi, limbi patentissimi lobis maximis rotundatis integris, staminibus 18–20, filamentis glabris, stylo longissimo ovarioque lepidotis, **capsula 10-loculari lignosa.**

Rhododendron Maddeni. *Hook. fil. Rhod. Sik. Himal. p.* 19. *t.* 18. *Journ. of Hort. Soc. Lond. v.* 7. *p.* 79 *et* 95.

Next to *R. Dalhousiæ*, this is perhaps the noblest of the Sikkim Rhododendrons which rewarded Dr. Hooker's researches in Northern India. Its flowers are nearly as large as in that species, fragrant, very much in general form and size resembling the white Day Lily (*Lilium candidum*), but the corolla is delicately tinged with rose. Fine as is the original figure of the author above quoted, it is quite equalled by our flowering specimens at Kew, which were in perfection in May and June of 1854, in a cool and shaded greenhouse. The large delicate flowers contrast well with the ample dark-green foliage, which is rusty beneath, and has deep red petioles. It is a rare species in its native mountains, only found in the inner ranges of Sikkim-Himalaya, in thickets by the Lachen and Lachoong rivers, at Choongtam, at an elevation of 6000 feet above the level of the sea. We cannot venture to consider it a hardy plant. The species, Dr. Hooker says, "is named in compliment to Major Madden, of the Bengal Civil Service,—a good and accomplished botanist, to whose learned memoirs on the plants of the temperate and tropical zones of North-west Himalaya the reader

may be referred for an excellent account of the vegetation of those regions. The same gentleman's paper on the *Coniferæ* of the north of India may be quoted as a model of its kind."

Descr. A *shrub* six to eight feet high, branching from the base. *Branches* erect, supple, covered with pale papery bark. *Leaves* abundant, very bright green, coriaceous but flaccid, elliptical-lanceolate, acute or acuminate, more or less tapering into the thick, short, red *footstalk*, four to seven inches long: the young ones entirely, the older ones beneath only, clothed with dense, minute *scales*, which become ferruginous in age; the *costa* very prominent beneath, and deep red near the footstalk. *Flowers* invariably three at the extremity of the branches, spreading nearly horizontally in three directions, large, handsome, fragrant, white, tinged with blush. Each short *peduncle* subtended by one or more large, loose, membranaceous *bracteas*. *Calyx* of five, short, unequal, rounded, erect *lobes*, very squamulose. *Corolla* with the *tube* elongated, funnel-shaped; the *limb* of five, large, rounded, scarcely acute, spreading *lobes*. *Stamens* eighteen to twenty, shorter than the corolla. *Ovary* oval, squamulose, ten-celled. *Style* longer than the stamens. *Stigma* very large, rayed.

Fig. 1. Stamina. 2. Calyx and pistil. 3. Section of ovary :—*magnified.*

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Tab. 4806.

CEANOTHUS floribundus.

Copious-flowering Ceanothus.

Nat. Ord. Rhamneæ.—Pentandria Trigynia.

Gen. Char. (*Vide supra*, Tab. 4660.)

Ceanothus *floribundus;* piloso-scabridus, foliis breve petiolatis oblongis coriaceis undulatis acutis margine (et paulo intra marginem) dentato-glandulosis apiceque acutiusculo reflexis subtus venosis pubescenti-tomentosis, corymbis densifloris globosis aggregatis sessilibus.

Among other interesting species of *Ceanothus* of California, the present was raised, from seeds sent by Mr. William Lobb, by Messrs. Veitch, of the Exeter Nursery, and of King's-road, Chelsea, and it is certainly the most beautiful of the several blue-flowered kinds yet known to us. The leaves are copious, compact, and glossy, and the flowers, though really growing in corymbs, are so dense as to be perfectly globose, capitate, sessile (in which respect it differs remarkably from *C. dentatus*, Torr. et Gr.), and these heads crowded at the extremity of numerous short branches and of the richest mazarine blue that can be looked upon. To add to its charms, Messrs. Veitch have found it to be quite hardy in this climate. It flowers in June.

Descr. Apparently a moderately-sized *shrub;* the *branches* clothed with brown *bark*, and slightly hairy; the ultimate or lateral branches short, redder and more hairy. *Leaves* crowded, small, patent or reflexed, deep green, glossy, hairy above, oblong, coriaceous, waved, the margin and moderately acute apex reflexed (giving a retuse appearance to the apex), the former at the very edge, and within the edge on the upper side, studded with tooth-like *glands;* the under side is pale, prominently veined and reticulated, downy. *Petioles* short, thick, hairy, with a pair of ovate tapering *stipules* at the base, more than half their length. *Flowers* of the richest mazarine blue, arranged indeed in *corymbs*, but so crowded and so spreading as to form dense balls, or *capi-*

tula, sessile, and these crowded about the extremities of the short branches, so copious as to conceal a great part of the foliage. *Pedicels* reddish, hairy, and having small, scale-like, reddish, deciduous *bracts* at the base. *Calyx* deeply cut into five, ovate, acute, inflexed *segments*, which meet at the style with their points and conceal the ovary. *Petals* brilliant blue, on long filiform claws, spreading, the *lamina* cucullate; all standing out from the clefts between the closed calycine segments. *Stamens* opposite the petals, inserted at their base, as long as the petals, erect, patent. *Filaments* blue; *anthers* oval, blue, pollen yellow. *Ovary* trigonous, sunk in a fleshy broad ring or disc. *Style* columnar, much shorter than the stamens and pistils. *Stigmas* three, moderately spreading.

Fig. 1. Leaf and stipules, upper side. 2. The same, under side. 3. Flower. 4. Pistil and annular disc:—*magnified.*

Tab. 4807.

ANGULOA UNIFLORA.

One-flowered Anguloa.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Flores subglobosi, nunquam patentes. *Sepala* lateralia, invicem imbricantia, basi valde convexa, nec in cornu producta; alterum, nunc anticum, nunc posticum, conforme, basi planum. *Petala* sepalo dorsali æqualia et similia. *Labellum* coriaceum, unguiculatum, subconvolutum, trilobum, lamina carnosa lata plana supra medium auctum, hinc quasi bilabiatum. *Columna* teres, clavata, libera; *clinandrio* nunc mutico, nunc lacinia acuta porrecta utrinque aucto. *Anthera* galeata, valvis membranaceis nunc in lacinulas acutas producta. *Pollinia* 4, plana, inæqualia, caudicula longa lineari, et *glandula* acuta.—Herbæ *epiphytæ Granatenses et Peruvianæ*, Lycastis *facie*.—*Lindl.*

Anguloa *uniflora;* pedunculo bi-(pluri-)floro radicali squamis base imbricatis inflato-tubulosis vaginato, sepalis ovatis acuminatis cucullato-concavis sepalis subconformibus minoribus modice concavis, labelli trilobi lobis lateralibus rotundatis obtusissimis intermedio lineari-angusto reflexo-revoluto, columna apice laciniis duabus subulatis aucto.

Anguloa uniflora. *Ruiz et Pav. Fl. Peruv. Syst. p.* 228. *Fl. Peruv. Prodr. p.* 118. *t.* 26. *Lindl. Gen. et Sp. Orchid. p.* 160. *Bot. Reg.* 1844, *t.* 60.

Three species of this remarkable genus are figured by Dr. Lindley, *A. Clowesii*, Bot. Reg. 1844, t. 63. (Tab. Nostr. 4313), *A. Ruckeri*, Lindl. Bot. Reg. 1846, t. 41, and *A. uniflora*, Ruiz et Pav., Lindl. Bot. Reg. 1844, t. 60; to the latter our species must be referred, differing only in the colour of the flower, here tinged with blush, and spotted with the same tint. There is further an *Anguloa squalida*, Pöpp. Nov. Gen. et Sp. pl. i. p. 43, p. 74, described as having the flowers of "a dirty flesh-colour;" but the figure is totally at variance with our plant, as it is with any other known *Anguloa*, and more like some *Catasetum*. Our plant is of a lot purchased at a sale of Mr. Warcewitz's last Columbian (Quindios) collections, 1852, in London, by Messrs. Jackson, of the Kingston Nursery, in whose orchideous stove it flowered in June, 1854.

Descr. *Pseudo-bulbs* oblong, attenuated, furrowed, clustered; younger ones sheathed, with large green membranaceous *scales*,

which gradually pass into true *leaves*, of which there are three or four, broad, elliptical-lanceolate, acute, membranaceous, striated. *Peduncle*, or *scape*, from the base of the pseudo-bulbs, nearly as long as the leaves, sheathed with membranous green *bracteas*, and bearing one large flower from the uppermost sheaths. *Sepals* ovate, acuminate, concave, the two lower or lateral ones almost cucullate at the lower base; all fleshy, as are the *petals*, which are similar in shape to the sepals, but narrower and smaller. The *flower* is a dirty cream-colour, tinged and spotted, chiefly within, with pink. *Lip* as long as the column, to which it is applied, subsemicylindrical; that is, the sides are involute; three-lobed, yellowish, spotted with pink; *lateral lobes* subrotund, very obtuse; *intermediate* one in a deep sinus of the lateral lobes, linear, narrow, revolute; the *lamina* occupying the disc is bifid at the apex, and projects a little beyond the sinus of the two lobes. *Column* terete, clavate, the apex or *clinandrium* with two, projecting, large, subulate laciniæ. *Anther-case* hemispherical.

Fig. 1. Column and lip. 2. Front view of lip. 3. Pollen-masses :—*magnified*.

Tab. 4808.

CALYCANTHUS occidentalis.

Western Calycanthus.

Nat. Ord. Calycantheæ.—Icosandria Polygynia.

Gen. Char. Calyx tubo brevi urceolato, limbi lobis multiserialibus, imbricatis, (sæpe) coloratis, carnoso-subcoriaceis, lanceolatis, intimis minoribus. *Corolla* nulla. *Stamina* plurima, annulo carnoso calycis faucem claudenti inserta, inclusa, pluriseriata, inæqualia, decidua, exteriora duodecim fertilia; *filamentis* brevissimis; *antheris* oblongis, extrorsis, bilocularibus, adnatis, longitudinaliter dehiscentibus. *Ovaria* plurima, calycis tubo undique inserta, libera, unilocularia, *ovulo* unico, adscendente, anatropo, rarius geminis, altero ex apice loculi pendulo, minimo. *Styli* terminales, compresso-subulati, exserti; *stigmata* obtusa. *Achænia* plurima, calycis tubo carnoso inclusa, subcornea, monosperma. *Semen* adscendens. *Embryonis* exalbuminosi recti *cotyledones* foliaceæ, spiraliter convolutæ, radicula infera.—Frutices *Boreali-Americani, aromatici, brachiato-ramosi;* foliis *oppositis, petiolatis, integerrimis, exstipulatis*; floribus *coælaneis, ramulos terminantibus, atro-rubentibus. Endl.*

Calycanthus *occidentalis;* foliis cordato-ovatis brevi-acuminatis glabris nitidis supra scabriusculis subtus concoloribus, pedunculis elongatis terminalibus solitariis v. ternis rarius lateralibus infra florem bracteatis, sepalis linearispathulatis obtusis.

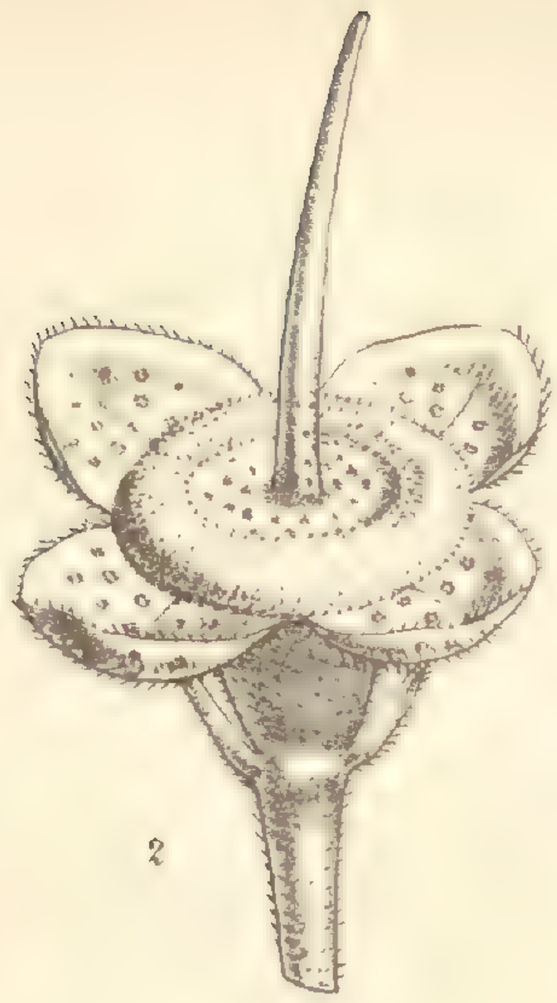
Calycanthus occidentalis. *Hook. et Arn. Bot. of Beech. Voy. p.* 340. *t.* 84. *Torrey et Gray, N. Am. Fl. v.* 1. *p.* 476. *Walp. Repert. Bot. v.* 2. *p.* 60.

This fine *Calycanthus* is handsome in its growth and foliage, and especially in the size and colour of the flowers, and has not yet had the justice done to it in the gardens of this country which it deserves, seeing it was one of Mr. David Douglas's introduction to the Horticultural Society's Garden, from California, in 1831. It is perfectly hardy, but a wall singularly favours the ripening of the wood and the production of the flowers. Our plant, with an eastern aspect, is seven or eight feet high, and bears its large singularly-coloured flowers at this time (September) in great perfection. The wood is equally fragrant with that of the common *Carolina Allspice* (*C. floridus*); but the whole habit of the shrub is very different.

Descr. Glabrous in every part. *Branches* erect, strict, stout,

rounded, greenish-brown. *Leaves* opposite, petiolate, large, five to six inches long, cordato-ovate, moderately acuminate, firm in texture, bright full shining green on both sides, but rather paler beneath, slightly rough on the upper surface to the touch, scarcely so to the naked eye, fragrant when bruised, as are the branches and every part of the wood. *Peduncles* elongated, thickened upwards and there bracteated, with subulate *bracteoles*, terminal, and there often ternate, or in the forking of a branch; or rarely lateral, from the upper leaves. *Flowers* scentless, large, more than three inches across: *sepals*, which may be considered to pass gradually into *petals*, all of the same uniform purplish but rather bright brick-colour, leathery, subspathulate, outer ones much reflected: the tips of all become tawny in age. *Stamens* densely crowded around the mouth of the calyx-tube. *Filaments* very short, dilated at the base. *Anthers* oblong, yellow, apiculate, slightly villous, opening outwardly. *Ovaries* sunk into the bottom of the thick fleshy calyx-tube, as in *Rosa*. *Pistil* hairy: *style* filiform, glabrous.

Fig. 1. Calyx-tube, from which the sepals and petals are removed, showing the stamens and tips of the styles. 2. The same cut open. 3. Stamen. 4. Pistil:—*magnified*.



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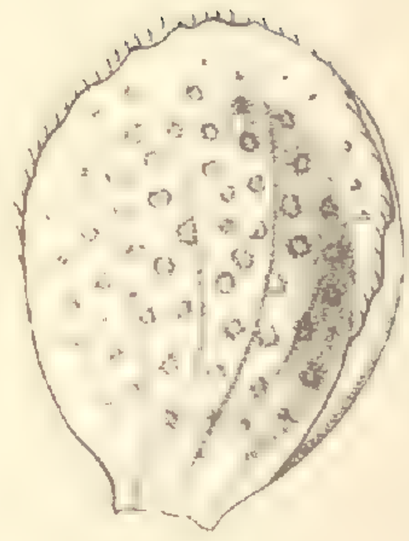

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Tab. 4809.

MYRTUS bullata.

Blistered-leaved Myrtle.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4558.)

Myrtus *bullata;* arbuscula, ramulis pedunculis petiolis costaque folii pubescentibus, foliis brevi-petiolatis late elliptico- v. orbiculari-ovatis bullatis subtus discoloribus, pedunculis folio brevioribus, v. æquilongis uni-bi-floris, floribus tetrameris, bacca (matura) verrucosa 2-loculari oligosperma.

Myrtus bullata. *Banks et Sol. Ic. et MS. All. Cunn. Prodr. Fl. Nov. Zel. in Ann. of Nat. Hist. v.* 3. *p.* 115. *Hook. Ic. Plant. p.* 557. *Hook. fil. Bot. of Antarct. Voy. Pars II. Fl. Nov. Zel. p.* 70. *Gray, Bot. U. S. Expl. Exped. v.* 1. *p.* 543.

Like most other New Zealand persistent-leaved trees and shrubs, the present has a singularly dingy-brown colour in the foliage; and it has a further peculiarity in the very blistered character of all the leaves (whence the specific name), giving them an appearance as if they have been scorched by fire. The flowers are tolerably numerous, larger than those of our common myrtle; in other respects very similar; the petals are delicately tipped with rose-colour. In our climate we find it necessary to winter it in the greenhouse; but in the extreme south-west of England, and in the Channel Islands, it would probably bear the open air throughout the year. Its foliage, when bruised, is very fragrant and aromatic. Flowers at Kew in June and July. It is frequent in the Northern Island of New Zealand, where its native name is *Rama-Rama*, according to Mr. Allan Cunningham.

Descr. An erect *shrub*, with a somewhat arboreous *stem*, attaining a height of from fifteen to twenty feet. *Branches* terete, slightly pubescent, very leafy. *Leaves* on short downy *petioles*, subrotund, or approaching to ovate or elliptical, firm, between coriaceous and membranaceous, more inclining to the latter, convex above and singularly bullate, the lateral veins being much sunk, and the areoles between them swollen, glabrous; the colour

is pecularly lurid and purplish, beneath, and the young leaves entirely, more purple. *Peduncles* axillary or terminal, solitary, generally shorter than the leaf, one- or two-flowered, bearing at the extremity, immediately at the base of the ovary, a pair of opposite, subulate *bracteoles*. *Flowers* moderately large. *Calyx* purple, very downy. *Tube* obconical, purple; *limb* of four, spreading, broad, ciliated, dotted, concave segments. *Petals* four, nearly orbicular, concave, ciliated, white, externally deeply tinged with rose-red; they are faintly striated and strongly dotted. *Stamens* numerous, arising from a pulvinate ring at the mouth of the calyx-tube. *Filaments* white: *anthers* subrotund, yellow. *Ovary* inferior, two-celled. *Style* as long as the stamens, subulate.

Fig. 1. Petal. 2. Flower from which the petals and stamens are removed. 3. Transverse section of the ovary:—*magnified*.

In our May Number, Tab. 4781, we have spoken of *Desfontainia spinosa* as introduced by the Messrs. Veitch "to our greenhouses;" we should have said, "to our gardens and shrubberies," for it has proved perfectly hardy in the Exeter Nursery during four winters.

Tab. 4810.

CEANOTHUS Lobbianus.

Mr. Lobb's Ceanothus.

Nat. Ord. Rhamneæ.—Pentandria Trigynia.

Gen. Char. (*Vide supra*, Tab. 4660.)

Ceanothus *Lobbianus;* ramis patentibus teretibus, foliis elliptico-oblongis tricostatis rigidis hirsutulis marginibus recurvis grosse glanduloso-dentatis, stipulis lato-subulatis petioli longitudine, pedunculis subterminalibus nudis vel unifoliatis, racemis capitatis subrotundo-ovatis, floribus densis.

We have here another pretty, hardy, blue-flowered *Ceanothus* from California, discovered by Mr. W. Lobb, and communicated by the Messrs. Veitch, of Exeter and Chelsea Nurseries. It is one of the group whose leaves have three ribs, and therefore is far removed from our *C. floribundus*, Tab. 4806 of our last number. It has some resemblance to *C. thyrsiflorus*, Eschs., but there the branches are straight, erect, and angular, the leaves are much larger, and flowers paler-white in our specimens in the *dried* state; as it has also to *C. divaricatus* of Nuttall, from whom we have an authentic specimen before us, and other specimens gathered by Jeffray (n. 1201), and by the officers of Fremont's Expedition to California (n. 357),.and even from Mr. W. Lobb, all agreeing in having leaves with the margins quite plane and fringed with very minute glandular teeth: whereas our plant is remarkable for the reflexed margins (both in the wild and cultivated state), and the conspicuous glandular teeth. In other respects, it must be confessed, the two have a great affinity. The present is every way worthy of cultivation, and is quite gay with its pedunculated clusters of small but thickly-placed bright blue flowers, which are produced in June and July.

Descr. A moderately-sized, erect *shrub*, with numerous, patent, terete, rather twiggy *branches*, the young ones green and downy. *Leaves* patent, alternate, rarely exceeding an inch in length, generally bearing young leaf-shoots in the axils, on short petioles, elliptical-oblong, obtuse, rigid, subcoriaceous, slightly hairy, three-

ribbed, dark green above, beneath paler and downy; the margin always recurved (in cultivated as well as native specimens), and bearing numerous, conspicuous, spreading teeth, tipped with a gland: ribs and veins sunk above, prominent beneath. There are two, broad, subulate, scale-like *stipules*, one on each side the base of the petiole, equal in length with it. *Peduncles* solitary, rather longer than the leaves, subterminal, situated in the axils of the upper leaves, terminated by a capitate *raceme* of dark blue, compact *flowers*. *Pedicels* hairy. *Calyx*, with its five, deep, ovate segments, incurved over the germen. *Petals* spreading horizontally from between the sinuses of the calycine segments, cucullate, tapering below into a long slender claw. *Ovary* three-lobed, sunk in a slightly lobed fleshy *annulus* or *disc*: *style* thick, longer than the calyx-segments: *stigmas* three, moderately spreading.

Fig. 1. Flower and pedicel. 2. Pistil and fleshy annulus. 3. Leaf and stipules:—*magnified.*

3

Tab. 4811.

BOUGAINVILLÆA SPECTABILIS.

Showy Bougainvillæa.

Nat. Ord. Nyctagineæ.—Octandria Monogynia.

Gen. Char. Involucrum aut bractea magna membranacea ad basin cujusque floris, hinc fere ad medium insidentis, pedunculo bracteæ adnato. *Perigonium* tubulosum, limbo abbreviato. *Stamina* 7–8, inclusa, sub ovario coadunata. *Stylus* lateralis; *stigma* incrassatum aut clavatum.—Frutex *vel* arbuscula *sæpe scandens et spinosa*, floribus *aggregatis et* bracteis *splendide coloratis spectabilia*, foliis *alternis: ex* America meridionali. *Chois.*

Bougainvillæa spectabilis. *Willd. Sp. Pl. pl.* 2. *p.* 348. *Spreng. Syst. Veget. v.* 2. *p.* 163. *Chois. in De Cand. Prodr. v.* 13. *part* 2. *p.* 437. *Paxton's Mag. of Bot. v.* 12. *p.* 51 *cum Ic.*

Bougainvillæa virescens *et* B. pomacea. *Chois. l. c. p.* 437 *et* 438.

Bougainvillæa Peruviana. *Humb. et Bonpl. Pl. Æq. v.* 1. *p.* 173. *t.* 49? *Chois. in De Cand. Prod. l. c. p.* 437? *Nees et Mart. Nov. Act. Bonn. v.* 11. *p.* 39.

Josepha angusta. *Vell. Fl. Flum. v.* 4. *t.* 16.

Var. glabra.

Bougainvillæa glabra. *Chois. De Cand. Prod. l. c. p.* 437.

Many have heard of the beauty of the inflorescence of this subscandent, large shrub or tree, but few have been privileged to see it. It has been reported (see Paxton, *l. c.*) to have flowered for ten years in succession in the border of a stove trained against a back wall in the Jardin des Plantes at Paris. At length (for the first time, we believe, in England), in 1844, it flowered in the large tropical conservatory at Chatsworth. In June of the present year, Mrs. George Marryat, of Clinton Glen, Christchurch, Hants, obligingly communicated to us the specimen here figured, from the vinery of Mrs. West, in that neighbourhood, where it blossomed when five years old, "in a vinery where grapes are ripened without fire, trained in a fan-shaped manner against the back wall, the roots confined in a compara-

tively small pot." It will be seen by our figure that the charm of this plant is not in the flowers themselves, which have no beauty to recommend them, but in the large bracteas or floral leaves, which in our living plant are of a full and bright rose-colour, and, as the branches are literally loaded with them, the effect must be very striking. In respect of colour however, I suspect these bracteas are exceedingly variable. In Paxton's plant they are deep purple: so green in one variety, that M. Choisy has constituted of it a species (*B. virescens*), mainly depending on that circumstance. In some of our specimens they are brick-red. Mr. Tweedie, in a note accompanying his specimens, says, "the trees seem all on fire with them." That all M. Choisy's *new* species are trifling varieties I am satisfied, and indeed I have authority for them in my own Herbarium. His *B. virescens* is merely a variety with greenish bracteas (a peculiarity perhaps due to the plant being much shaded); and indeed Martius' specimen, n. 64 in my Herbarium, quoted by Choisy under *B. spectabilis*, is *this* variety, as well as Mrs. Graham's specimen, rightly referred to in my Herbarium as *B. virescens*. Mr. Gardener's n. 5139 (*B. glabra*, Chois.) is simply a nearly glabrous state of *spectabilis*. Blanchet's n. 2573 (*B. pomacea*) is a specimen of *spectabilis*, with smallish leaves, and flowers and bracteas not quite developed.

I feel doubts in regard to Bonpland's *B. Peruviana* as a distinct species. The differences figured and described are but trifling, and the author conceives them to be of more weight, "car on connaît à peine quelques plantes qui croissent à la fois au Brésil et au Pérou." My own specimens from three localities, on the western side of South America, lead me to the conclusion that they are specifically identical with the Brazilian plant; and I possess specimens from the late Colonel Hall, from Zarumille, near Quito (I believe), from Dr. Seemann, collected at Quinos, Peru (n. 940), and from Warszewicz, gathered on the Magdalena. The spines in these specimens are straight, or slightly curved, or absent.

Descr. The main trunk is quite arborescent; the branches numerous, long and subscandent, flexuose, more or less downy and spiny: spines varying much in size, and in straightness or curvature. *Leaves* petiolated, ovate, acuminate, entire, varying somewhat in shape, more or less acuminated, blunt, or even cordate or acute at the base, varying too in pubescence; sometimes glabrous. *Peduncles* axillary from near the apices of the very numerous branches, shorter or longer than the leaves, solitary, simple or forked, each branch bearing three large, coloured, membranaceous, reticulated, cordato-ovate, glabrous or downy *bracteas*, costate and veined like the leaves, in our specimen

deep full rose-colour (and these retain their colour perfectly after being dried, like what are called *everlasting* flowers); one, two, or all three bearing a flower from the costa below the middle. *Perianth* one to two inches long on different specimens, yellowish-green, tubular; in our specimen irregularly lobed, and slightly expanded at the limb, hairy. *Stamens* eight, unequal in height, shorter than the perianth, united below. *Anther* small, oval. *Ovary* oblong-cylindrical, stipitate. *Style* as long as the ovary. *Stigma* linear, lateral.

Fig. 1. Perianth, laid open. 2. Pistil and stamen:—*magnified.*

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Tab. 4812.

ESCHSCHOLTZIA TENUIFOLIA.

Slender-leaved Eschscholtzia.

Nat. Ord. Papaveraceæ.—Polyandria Tetragynia.

Gen. Char. Receptaculum ampliatum, hypocrateriforme, limbo expanso integro. *Calyx* mitræformis, caducus. *Corolla* tetrapetala, petalis unguibus fauci receptaculi insertis, staminiferis. *Capsula* siliquæformis, bivalvis: *semina* marginibus valvarum affixa. *De Cand.*

Eschscholtzia *tenuifolia;* foliis cæspitosis, segmentis lineari-subulatis, pedunculis elongatis erectis, toro tubuloso-campanulato limbo nullo, calyce brevi- et subobtuse mucronato.

Eschscholtzia tenuifolia. *Benth. in Trans. Hort. Soc. 2nd ser. v.* 1. *p.* 408. *Walp. Repert. Bot. v.* 1. *p.* 116.

Chryseis tenuifolia. *Lindl. MS. Torr. et Gr. N. Am. Fl. v.* 1. *p.* 63.

Botanists have been divided in regard to the propriety or necessity of changing the name of *Eschscholtzia* to that of *Chryseis.* Dr. Lindley (Bot. Reg. under Tab. 1948) proposed and adopted the latter name, and gives the authority of a botanical friend for stating that the original name, *Eschscholtzia*, Chamisso, is the same with *Elsholtzia* (the different spelling being an error of the press) of Willdenow, among *Labiatæ;* and that Willdenow's *Elsholtz* and Chamisso's *Eschscholtz* are father and son. I know not on what authority this statement is made. One would almost wish it were correct, so as to justify such a change. But Dr. Asa Gray, who had adopted this view in his and Dr. Torrey's 'Flora of North America,' vol. i. p. 63, has the following observation in the Supplement to the same volume, p. 664:—"We are informed by several distinguished German Botanists that the *Elsholtz*, to whom the genus *Elsholtzia* was dedicated by Willdenow, and *Eschscholtz*, the companion of Chamisso, were not father and son, nor of the same family or name. If this be the case, it becomes a question whether the similarity between *Elsholtzia* and *Eschscholtzia* is so great as to justify the

change proposed by Dr. Lindley, and which we have adopted." We think not, under these circumstances: botanists, too, frequently increase the similarity of the names by writing *Elsholtzia* of Willdenow, in *Labiatæ, Elscholtzia.*

If there be doubt or difficulty in the determination of the generic name, we fear that still greater difficulties attend the determination of the several species described. We give the present plant, with the name of *E. tenuifolia,* Benth., as we received it from our friends Messrs. Veitch, and such we believe it to be, for it sufficiently accords with authentic specimens of that species in our Herbarium; but we are bound to say it almost equally accords with those of *E. cæspitosa* and *E. hypecoides.* The able author of all these, Mr. Bentham, indeed, says of *E. tenuifolia:* "Stature and flowers of *E. cæspitosa,* but easily distinguished by its very finely cut leaves, and by the form of the calyx." Of *E. hypecoides,* he says: "Habit of *E. Californica;* but the leaves are much smaller, and the flowers not one-third of the size." An extensive suite of specimens in our Herbarium show that they are liable to much variation in the size of the flowers, in the greater or less slenderness of the segments of the leaves, and especially in the form of the calycine cup; so that I fear I may say of this present species, in relation to *E. cæspitosa* and *hypecoides,* the same as Dr. Lindley has said of his *Chryseis compacta* (Bot. Reg. t. 1948) in relation to the *Californica,* Lindl. (not Cham., *C. Douglasii,* Hook.), and *C. crocea,* Lindl., (*Californica* vera, Cham.); viz., "If *they* are distinct, so is this; but if they are only varieties of one species, this must be reduced to that species also."

Even as distinguished from the larger-flowered kinds of *Eschscholtzia,* the differences are not great; and may be summed up in few words better than by a laboured description.—Our *E. tenuifolia* has a dense, compact, erect habit, a good deal branched near the base. *Leaves* very crowded, mostly subradical, two-thirds as long as the stems; segments linear-subulate. *Flowers* small, uniform, yellow; calycine cup almost cylindrical, scarcely dilated at the margin.

Fig. 1. Leaf. 2. Flower-bud. 3. Stamen. 4. Calycine cup and pistil:—*magnified.*

W. Fitch del. et lith

Vincent Brooks Imp

Tab. 4813.

WHITLAVIA GRANDIFLORA.

Large-flowered Whitlavia.

Nat. Ord. Hydrophyllaceæ.—Pentandria Monogynia.

Gen. Char. Calyx patentissimus, 5-partitus, sinubus nudus. *Corolla* hypogyna, tubuloso-campanulata, tubo inflato, calyce multo longiore, intus basi squamulis 5 staminibus oppositis iisque adnatis aucto, ore subconstricto, limbo quinquelobo patente. *Stamina* 5, squamulis corollæ adnata, exserta. *Ovarium* spurie biloculare, placentis carnosis. *Ovula* plurima: *stylus* exsertus, bifidus. *Capsula* subcompressa, unilocularis, loculicida, valvis medio placentiferis. *Semina* numerosa, tuberculata.—Herbæ Californiæ *caulescentes, annuæ, glanduloso-pubescentes;* caulibus *erectis flexuosis;* foliis *alternis longe petiolatis indivisis ovatis grosse dentatis hirsutis;* floribus *circinato-racemosis speciosis albo-cæruleis pedicellatis;* pedicellis ***gracillimis secundis patentissimis glandulosis.***

Whitlavia *grandiflora;* caule diffuso flexuoso, foliis subdeltoideis, corollæ tubo calyce duplo longiore, squamulis oblongis retusis.

Whitlavia grandiflora. *Harv. in Lond. Journ. of Bot. v.* 5. *p.* 312. *t.* 11. *Walp. Repert. Bot. v.* 6. *p.* 525.

This beautiful annual has attracted the attention of all lovers of Horticulture at the Chiswick Exhibitions of the present summer (1854), having been sent by the Messrs. Veitch from their nurseries at Exeter and King's-road, Chelsea. The seeds had been the year before sent home from California by Mr. William Lobb. It was first detected in that country by the late Dr. Coulter, and described by Dr. Harvey, in the 'London Journal of Botany,' as a new genus, to which is added a second species, *W. minor*, also found by Mr. W. Lobb. The generic name commemorates the services rendered to Botany by Francis Whitla, Esq., especially to the Belfast Botanic Garden. "When introduced to our gardens," remarks Dr. Harvey, "the plants now described will probably become as universal favourites as the *Nemophilæ* and *Giliæ* (to which might have been added *Eutoca viscosa*), which they rival, or perhaps excel, in beauty." From *Eutoca*, *Whitlavia* is at once distinguished by the form of

the corolla, and the scale at the base of the stamens. As a border plant, it is a great acquisition.

Descr. Annual, with branched, diffuse, flexuose, glanduloso-pubescent, rounded, green *stems*. *Leaves* alternate, nearly deltoid, or ovato-deltoid, coarsely and doubly serrated, pubescenti-hirsute, penninerved, on long pubescenti-glandulose *petioles*, generally longer than the leaves. *Flowers* large, in terminal, many-flowered, secund, circinate *racemes*. *Calyx* deeply cut to the base, into five, linear, very patent, glandulose *segments*. *Corolla* rich blue, with an ample campanulate *tube*, slightly inflated below; the *limb* equal, or nearly so, of five, rounded, spreading *lobes*. *Stamens* five. *Filaments* exserted, arising each from the back of a scale at the base of the corolla, slightly hairy; *scale* oblong, retuse, hairy at the apex. *Anthers* oblong. *Ovary* seated on a glandular disc. *Style* as long as the filaments, and hairy like them, forked at the apex. *Stigmas* obtuse.

Fig. 1. Stamen and scale. 2. Pistil. 3. Transverse section of an ovary :— *magnified.*

W Fitch del. et lith.

Vincent Brooks Imp.

Tab. 4814.

CEREUS Lemairii.

Lemaire's Cereus.

Nat. Ord. Cacteæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4417.)

Cereus *Lemairii;* repens, ramis longissimis flexuosis obtuse trigonis, angulis subremote dentatis, dentibus parvis obtusis in axillis pulvinatis, aculeis 1–3 perbrevibus subulatis rectis, floribus maximis speciosissimis, calycis glaberrimi tubo elongato squamis maximis oblongis imbricatis appressis subfoliaceis obtecto, sepalis numerosis erecto-patentibus (flavo-rubris) plerisque petala oblonga erecta obtusa æquantibus, stylo staminibus densissime compactis longiore, stigmatis radiis numerosis magnis bifidis.

Cereus rostratus, "Lemaire"? *Salm-Dyck, Cact. Hort. Dyck. p.* 51 *et* 218? "*Pfeiffer, A.* 9. *Z.* 1837, *p.* 371. *sub* C. hamato"?

We received, two years ago, cuttings of a flagelliform *Cereus* from the Royal Botanic Garden of Hanover, bearing the name of "*C. rostratus*, Lemaire." If it be really the plant so called, and briefly characterized by the Prince of Salm-Dyck, it is most inappropriate*. Its stems might very well have been taken for those of our *Cereus MacDonaldiæ* (figured at Tab. 4707); but we were agreeably surprised, in the month of June, 1854, to see

* All that I can find of descriptive matter is the following, from the Cact. Hort. Dyck.:—"*C. rostratus*, Lem.; *suberectus* ramosus 3–4-angularis viridis radicans, costis junioribus acutis tandem obtusis rectiusculis *quasi hamatis*, areolis in parte superiore tuberculorum decurrentium positis, aculeis 6–8 gracilibus albis fasciculatis.—Caulis ramique *valde extensi scandentes*, plerumque tetragoni, lin. 8–12 crassi. *Flores hucusque ignoti.* A cæteris speciebus differt *gibbis carnosis*, *recurvatim rostratis*, sub pulvillo positis."

I have placed those expressions in italics which require special attention; and it will be allowed, I think, in the absence of flowers (the most remarkable feature of the plant), that there is really nothing to enable us to identify our plant with that of the author; and a good deal that is at variance with it; for our plant cannot be called "sub-erect," nor does anything correspond with "costæ rectiusculæ quasi hamatæ," nor is there anything in our plant that can be called "recurvatim rostrata." So that I hope I shall stand excused in giving this a new name, and in dedicating one of the most superb of the *Cacteæ* to M. Lemaire, who has rendered no small service in the investigation of this family.

November 1st, 1854.

blossoms upon it, though equalling in size those of that fine flowering plant, yet very different in several particulars,—the form of the petals and sepals, for example, and especially in the nature of the calycine tube: in *C. MacDonaldiæ* (and also in *C. grandiflorus*) partially clothed with minute, scattered, distant, shaggy or villous scales; here the tube is quite concealed by large, coloured, quite glabrous scales, the smallest of them almost an inch long, and then gradually enlarging upwards and passing into the sepals. It is equally fragrant with the two species now mentioned, and is, like them, a night-blowing one. Nothing is positively known of its native country; but it happens that I have in my possession a drawing made in Antigua, undoubtedly of this species; so that it is probably a native of that island.

Descr. *Stems* much elongated, branched, and pseudo-articulate, rooting, thicker than one's finger, dark-green, obtusely triangular, the angles toothed, teeth (or tubercles) small, distant about half an inch from each other, bearing an areolus in its axil; areoles pulvinate, bearing from one to three, very small, subulate, but rather thick, straight *aculei*. *Flower* arising from an angle of the stem, sessile, curved upwards, very large, twelve inches long, and nine inches across the cup-shaped perianth (for the flower has not the spreading sepals and petals of *C. MacDonaldiæ*). *Calyx-tube* four to five inches long, curved, an inch and a half in diameter, clothed with large, oblong, rather obtuse, leafy scales, an inch and more long, the lower ones pale green; upper and larger ones yellow, margined with red, and these gradually pass into the sepals of the calyx, which are linear-lanceolate, acute rather than acuminate, the larger ones six inches and more long, bright tawny-yellow, streaked or margined with red. Within this are the large, white, oblong, obtuse, numerous *petals*, about equal in length with the inner sepals, but twice or thrice as wide. *Stamens* exceedingly numerous and densely crowded, pale yellow. *Style* very thick, pale yellow, cylindrical. Rays of the *stigma* yellow, more than two inches across, numerous, downy, bifid.

Fig. 1. Pulvinulus and spine:—*magnified.*

Our Subscribers are requested to observe, that the numbering on the description of *Bougainvillæa spectabilis* should be 4810 (instead of 4811), and *Ceanothus Lobbianus* should be 4811 (instead of 4810); and they should be transferred to their respective Plates.

Tab. 4815.

CEANOTHUS papillosus.

Papillose Ceanothus.

Nat. Ord. Rhamneæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4660.)

Ceanothus *papillosus*; pubescenti-hirsutus, foliis alternis petiolatis anguste oblongis penninerviis dentatis supra convexis papillosis subtus tomentosis, papillis apice dentibusque glandulosis stipulis ovatis anguste acuminatis basi pinnatifidis, corymbis subpaniculatis copiosis pedunculatis terminalibus axillaribusque, ovario trigono angulis apice subproductis.

Ceanothus papillosus. *Torr. et Gray, Fl. of N. Am. v.* 1. *p.* 208.

One of the many interesting discoveries of the unfortunate Douglas in California. We are not aware however that he was the means of introducing it to the gardens of this country. We are indebted for the specimen here figured to Messrs. Veitch and Son, of the Exeter and King's Road Nurseries, who reared it from seeds gathered by Mr. William Lobb. It flowered in the open border, at Exeter, in June of the present year, and it will, no doubt, prove as hardy as the other blue-flowered species of *Ceanothus* from the same regions. Its blossom-heads are not so compact as in some other blue-flowered species, but this is compensated by their number on all the lesser branches.

Descr. A moderately-sized *shrub*, with downy or hairy, terete *branches*, becoming brown in age. *Leaves* alternate, petiolate, rather narrow-oblong, subcoriaceous, dark green, pubescent and convex above, distinctly papillose, penninerved, dentate at the margins; *papillæ* and marginal teeth terminated by a *gland*, beneath pale and tomentose. *Stipules*, a pair at the base of the petioles, shorter than they, broad and ovate and pinnatifid at the base, tapering into a long acuminated point. *Peduncles* axillary and terminal, about as long as the smaller leaves, terminated by a rather paniculated corymb of small bright purple *flowers*. *Pedicels* and *flowers* quite glabrous. *Calyx* with five large, triangular, incurved segments. *Petals* horizontally spread-

ing from between the calyx-lobes, cucullate, stipitate, or on long *claws*. *Stamens* five, opposite the petals, blue. *Filaments* erect. *Anthers* subrotund. *Ovary* three-lobed (the lobes prominent upwards), sunk into a fleshy dotted ring or disc.

Fig. 1. Stipules and base of a leaf, showing the papillæ and the glands upon papillæ and marginal teeth. 2. Flower. 3. Pistil; the ovary sunk into the fleshy disc:—*magnified*.

W Fitch del et lith.

Vincent Brooks Imp

Tab. 4816.

KNIPHOFIA Uvaria.

Serrulated-leaved Kniphofia.

Nat. Ord. Asphodeleæ.—Hexandria Monogynia.

Gen. Char. Perigonium corollinum, campanulato-cylindricum, limbo brevi, sexdentato. *Stamina* 6, hypogyna: *filamenta* exserta, alterna elongata. *Ovarium* triloculare. *Ovula* plurima, biseriata, horizontalia, anatropa. *Stylus* terminalis, filiformis; *stigma* obsolete trilobum. *Capsula* cartilaginea, ovata, obsolete trigona, trilocularis, septicido-trivalvis. *Semina* plurima, biseriata, horizontalia (triquetra, fusco-nigra, subtilissime punctulato-scabrata, opaca, arillo membranaceo laxo ruguloso fusco-nigro solubili ad angulos alato-ampliato undique involuta, *Kth.*).—Herbæ *Capenses, scapigeræ;* foliis *radicalibus, linearibus, canaliculatis, distichis;* floribus *spicato-racemosis, nutantibus. Endl.*

Kniphofia *Uvaria;* foliis longissimis acuminatissimis profunde carinatis subglaucis margine carinaque præcipue minute cartilagineo-serrulatis, spica ampla ovato-cylindracea post anthesin inferne insigniter contractis, floribus densissimis deflexis infundibuliformibus limbi lobis modice patentibus, staminibus exsertis.

Kniphofia aloides. *Mönch, Meth. p.* 631. *Kth. Enum. Pl. v.* 4. *p.* 551.

Tritoma Uvaria. *Gawler in Bot. Mag. t.* 758. *Ait. Hort. Kew. ed.* 2. *p.* 290. *Redouté, Liliac. t.* 291 (*figure excellent*).

Tritomanthe Uvaria. *Link, Enum. v.* 1. *p.* 333. *Roem. et Schult. Syst. Veget. v.* 7. *p.* 629.

Aloe Uvaria. *Linn. Sp. Pl. p.* 460.

Aletris Uvaria, *Linn. Mant. p.* 308.

Veltheimia Uvaria. *Willd. Sp. Pl. v.* 2. *p.* 182.

Veltheimia speciosa. *Roth, Nov. Pl. Spec. p.* 490.

Aloe Africana, etc. *Commelyn, Hort. Med. Amst. v.* 2. *p.* 29. *t.* 15.

" Iris uvaria promontorii Bonæ Spei. *Stapel. Theophrast. p.* 335."

Of late years visitors to the Royal Gardens of Kew have been much struck with the beauty of the flower-spikes of a *Kniphofia* (*Tritoma* of most authors), planted in several of the beds, and producing a most striking effect during the summer months: the plant here represented. In reply to the queries respecting its history, Mr. Smith has only to reply, that it is always what

has been cultivated in these Gardens under the name of *Tritoma Uvaria*, Gawler. The figure, indeed, of Mr. Gawler, above quoted, is so indifferent, that we can well excuse its not being easily recognized, and have no hesitation in offering a better one. We almost regret, but we believe it is only an act of justice, to change a long-established name for one, no doubt, overlooked by the author of *Tritoma*; but we think it equally a duty to retain the Linnæan specific name, for the change of which there can be no reason at all: a name, too, given by the very old botanists. Although a native of the Cape, no plant can be more hardy nor more easily cultivated, and assuredly none more worthy of a place in every garden. Our specimen here represented is no unusually fine one: on the contrary, it becomes larger and handsomer as the inflorescence advances; for then the lower flowers are pressed down close upon the scape, and become entirely of a full yellow colour (as admirably represented by Redouté), while the upper and less expanded blossoms are of the finest red. The species was introduced to our gardens 150 years ago, and yet only now seems to attract special notice.

Descr. The *leaves* grow in dense tufts (and arise from tubers which are large and flattened beneath, and by means of which the plant increases abundantly); they are very long, three to four feet, and narrow, subulate, that is tapering to a very much elongated, slender point; for nearly the whole length they are somewhat conduplicate, so that a transverse section resembles the letter V; but the apex is very sharply alato-triquetrous. The margins and keel are cartilaginous and rough (to the touch), or minutely serrulated, especially the keel. In these serratures the species differs essentially from *Tritoma media*, Gawl., as well as from the *Tritoma Burchellii* of Dr. Lindley. *Scape* two to four feet high, terminated by a dense bracteolated spike of very numerous drooping flowers, at first bright red, then tipped with yellow, finally wholly yellow. The form of the spike is ovato-cylindrical, singularly contracted at the base when the flowers are past, for then the blossoms are pressed close to the stem, forming a kind of handle to the spike. *Perianth* slightly curved, infundibuliform, six-toothed or six-cleft at the apex: the teeth or lobes moderately patent; the tube obscurely six-angled. *Stamens* exserted, unequal. *Filaments* inserted at the base of the perianth. *Anthers* oblong. *Ovary* ovate, three-furrowed, three-celled. *Style* rather longer than the stamens. *Stigma* obtuse.

Fig. 1. Figure of an entire plant, very much reduced. 2. Flower:—*natural size*. 3. Flower laid open. 4. Ovary. 5. The same cut through transversely:—*all but figures* 1 *and* 2 *magnified*.

Vincent Brooks Imp

Tab. 4817.

HYPOXIS latifolia.

Broad-leaved Hypoxis.

Nat. Ord. Hypoxideæ.—Hexandria Monogynia.

Gen. Char. Perigonium corollinum, tubo cum ovario connato, *limbo* sexpartito plano persistente. *Stamina* 6, limbi laciniis mediante disco epigyno inserta. *Ovarium* inferum, triloculare. *Ovula* plurima, biseriata, amphitropa. *Stylus* liber; *stigmata* 3, angulis styli adnata, rarius distincta. *Capsula* limbo emarcido coronata, trilocularis, evalvis. *Semina* plurima.—Herbæ *perennes, habitu* Curculiginis, floribus *spatha bivalvi bracteæformi v. subglumacea exceptis. Endl.*

Hypoxis *latifolia;* tubere globoso solitario, foliis lato-lanceolatis acuminatis glabris basi vaginatis demum interioribus longissimis, racemis paucifloris, bracteis ciliatis, ovario turbinato.

In the spring of 1854 some bulb-like tubers were, along with many other rare plants, brought to us by Captain Garden, then of the 46th Regiment, from Natal. The tubers in question threw out leaves with the habit of those of some *Orchis*, particularly of our *Orchis hircina*, but more numerous and more sheathing at the base: from the axils of the leaves the flower-stalks arose, bearing spikes, or rather racemes, of moderately-large yellow flowers, having all the character of those of *Hypoxis*, to which genus I consequently refer it, notwithstanding the dissimilarity in the foliage. In this foliage there was a further peculiarity, namely, that after flowering (in which state it is here represented) the upper or inner leaves continued elongating till they attained two feet in height, giving the mature foliage a very different appearance from that which it had in the flowering state of the plant. Its nearest affinity is probably with *H. obtusa*, Burch. in Bot. Reg. f. 159; and the flowers are there equally large.

Descr. *Tuber* bulbiform, the size of a small turnip, rounded, obscurely concentrically striated, shaggy at the top, from which arises the cluster of *leaves:* of these, the lower are squamiform upwards, gradually becoming larger, and which in the flowering state are about six inches long, broad-lanceolate, acuminated,

striated, quite glabrous, much sheathed at the base: the inner or upper ones the narrowest, and these, after the flowering of the plant is past, gradually elongated, till they become, from the base, two feet long; of one such a portion is here represented at fig. 1. *Racemes* spicate, many-flowered, pedunculated, appearing before all the leaves are perfected. *Peduncles* axillary, solitary or two together, shorter than the leaf, in whose axil they are produced. *Bracteas* linear-lanceolate, ciliated and hairy at the back, the base embracing the very short *pedicels*. *Flowers* large, bright yellow, externally green. *Tube* of the *perianth* combined with the germen, six-furrowed; *limb* of six, spreading, oval, obtuse segments. *Stamens* nearly as long as the lobes of the perianth, erecto-patent. *Anthers* orange-coloured. *Ovary* turbinate, the upper portion only free. *Style* short: *stigma* large, of five, linear lobes. The flowers died off without producing any fruit.

Fig. 1. Outline of a portion of a fully-grown leaf, after the flowering of the plant:—*natural size.* 2. Bractea, and flower from which the segments of the perianth and the stamens have been removed:—*magnified.*

W. Fitch del. et lith.

Vincent Brooks Imp

Tab. 4818.

BEFARIA æstuans.

Glowing Befaria.

Nat. Ord. Ericeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4433.)

Befaria *æstuans;* ramis pedunculis calycibusque septemfidis ferrugineo-tomentosis, foliis oblongo-ovatis acutis planis subtus glaucis ferrugineo-tomentosis tomento demum obsoleto, racemis terminalibus, floribus amplis, petalis 7 obovato-spathulatis erecto-patentibus, staminibus 7–14 corolla brevioribus, stylo corollam superante.

Befaria æstuans. *Mutis, ex Linn. Mant. p.* 242. *Suppl. p.* 247. *Vent. Choix des Plantes, sub n.* 52. *Bonpl. Pl. Æquin. v.* 1. *p.* 120. *p.* 118. *De Cand. Prodr. v.* 7. *p.* 731. *Lindl. and Paxt. Fl. Garden, p.* 85. *Spreng. Syst. Veget. v.* 2. *p.* 458.

Acunna oblonga. *Ruiz et Pav. Fl. Peruv. Syst. p.* 123.

The Andian genus *Befaria* is an essentially beautiful one; but, we suspect, very variable, and one that requires to be studied with great caution, for the well determining of the species*. Our specimen, here figured, was derived from the Messrs. Veitch as a hardy greenhouse shrub; and they imported it through their collector, Mr. William Lobb, who detected it in the province of Chacapoyas, at an elevation of 8000 feet above the level of the sea. Dr. Lindley's plant, figured in the 'Flower Garden,' was obtained from the same source, Messrs. Veitch's Nursery; but it differs from our plant in the much longer style, in the pre-

* We are the more led to make this remark because the authors of the 'Flower Garden,' l. c. p. 84, have, as it appears to us, committed a great error in stating that the *B. coarctata*, figured by us at our Plate 4433, is not the *coarctata* of Humboldt and Bonpland. This is, perhaps, inferred from the accidental mistake on our part of omitting the synonym of the 'Plantæ Æquinoctiales,' and by comparing the figure in their own work, instead of comparing it with that of Humboldt and Bonpland. It would otherwise have been seen that ours is the true *coarctata*, with the petals patent and a short style, instead of having the petals erect and subparallel, and the style almost twice as long as the corolla.

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sence of coarse hairs on the branches, calyx, and flower-stalks, and in the margins of the leaves being fringed with blackish bristles. Bonpland also speaks of a degree of hairiness, which our plant does not possess, and it is probably, like the ferruginous down beneath the leaf, of a fugacious character. In other respects our plant sufficiently accords with his figure. It appears to be found in New Granada, as well as in Peru.

Descr. A *shrub*, according to Bonpland, attaining a height of eight feet: the branches, peduncles, and calyx, clothed with soft, ferruginous, woolly down. *Leaves* scattered, elliptical-ovate, on short *petioles*, acute, penninerved, coriaceous, green (pale in our specimen) above, somewhat glaucous beneath, and there more or less clothed with rusty down or wool, more so in the younger foliage. *Corymbs* terminal, of several large, fine, rose-coloured *flowers*. *Calyx* deeply seven-lobed; *lobes* oval, close pressed to the base of the corolla. *Petals* erecto-patent, obovato-spathulate. *Stamens* varying from seven to fourteen, unequal, but all shorter than the corolla. *Filaments* curved, thickened, and hairy at the base. *Anthers* opening by two pores at the apex. *Ovary* subrotund, seven-celled. *Style* a little longer than the corolla. *Stigma* a convex, five-lobed disc.

Fig. 1. Calyx and pistil. 2. Stamen. 3. Ovary. 4. Section of ovary:—*magnified.*

W.Fitch del et lith.

Tab. 4819.

BLANDFORDIA flammea.

Flame-flowered Blandfordia.

Nat. Ord. Asphodeleæ.—Hexandria Monogynia.

Gen. Char. *Perigonium* corollinum, tubuloso-campanulatum, limbo breviter 6-lobo æquali. *Stamina* 6, basi tubo inserta; *filamenta* filiformia, inclusa. *Ovarium* pedicellatum, triloculare. *Ovula* plurima, biseriata, horizontalia, anatropa. *Stylus* subulatus; *stigma* simplex. *Capsula* prismatica, trilocularis, tripartibilis, introrsum dehiscens. *Semina* in placentis suturas marginantibus plurima, horizontalia, *testa* laxa, pubescente. *Embryo* rectus, dimidio albumine longior, extremitate radiculari umbilico proxima.—Herbæ *in Nova Hollandia orientali extratropica indigenæ*, radice *fibrosa*, foliis *radicalibus linearibus elongatis*, *caulinis distantibus abbreviatis*, racemo *terminali abbreviato*, pedicellis *bibracteatis*, bractea *altera interiore laterali minore*, floribus *puniceis cernuis*. *Endl.*

Blandfordia *flammea*; foliis longissimis linearibus sensim acuminatis glauco-virescentibus acute carinatis, marginibus carinaque scabriusculis, scapo superne bracteato, racemis plurifloris, inflorescentiæ bracteis subherbaceis pedicello triplo brevioribus, perianthio campanulato basi solummodo contracto, limbi laciniis interioribus latioribus, staminibus perianthium æquantibus.

Tritoma flammea. *Lindl. in Journ. of Hort. Soc. v.* 5. *p.* 32. *Paxt. Mag. of Bot. v.* 1, *p.* 353 (*cum ic.*).

We have seen in the *Kniphoffiæ*, or Tritomas, among the *Asphodeleæ* (Liliaceous plants), how variable are the species, in a measure perhaps owing to cultivation; and we fear other genera of the same natural group will be found to depart from the normal type of their respective species, under peculiar circumstances. *Blandfordia* will probably not prove an exception. We would therefore speak with caution as to distinctive characters of what have been adopted in this genus. Plants under the names of *Blandfordia nobilis* and *B. grandiflora* have long been known in our gardens, and both of them figured in botanical works. *B. nobilis* (of which the figure in Smith's 'Exotic Botany' is the acknowledged type) is given at our Tab. 2003 by Dr. Sims; but *B. grandiflora*, given by Mr. Gawler in Bot. Reg. t. 924,

we feel sure is not the plant of Mr. Brown, as indeed is intimated by a passage in the text. We fear it is only *B. nobilis* with the peduncles less developed than usual. The true *B. grandiflora*, with long peduncles and longer and very slender membranaceous bracts, is that published by Dr. Lindley, Bot. Reg. 1845, t. 18, under the name of *B. marginata*, Herb. It is a native of Van Diemen's Land, where Mr. Gunn finds it abundantly and at various elevations from the level of the sea to 4000 feet of elevation. It is readily distinguished by the short stamens inserted about one-third the way down from the mouth of the tube. This is the plant, as Mr. Brown suspected, which Labillardière figures, Fl. Nov. Holl. t. 111, under the name of *Aletris punicea*. Dr. Lindley has (Bot. Reg. l.c.) under t. 18, two other species of *Blandfordia*, viz.:

1. *B. Backhousii*, of which he says, "The flowers resemble those of *B. marginata* (B. grandiflora, *Br.*), and their bracts of the same nature, but narrower and weaker and not one-half the length of the slender flower-stalks." This is numbered 241 by Mr. Gunn, and we fear is only an accidental variety of the true *grandiflora*. We have copious specimens with the same number attached, which are undoubtedly that plant. And

2. *B. Cunninghamii*, which we believe to be a very distinct species, discovered by Allan Cunningham, but the locality was unknown to Dr. Lindley. Fine specimens of the same plant are in our Herbarium, gathered in the Blue Mountains: but so variable were the species of *Blandfordia* considered by that practical Australian botanist Mr. Cunningham, that he has indicated it as "*B. nobilis:* very luxuriant specimens from a stiff and clayey bank, beneath a permanent elevated peaty bog."

Again, there is in the miscellaneous portion of the same volume of Bot. Reg., from Mr. Herbert, *B. intermedia*, "a garden plant, imported from New Holland under the name of *B. grandiflora*," but the description does not suffice to enable us to offer any opinion upon it.

And lastly, we have the fine species here figured, unquestionably the most beautiful and distinct of all. Our specimen was sent to us by Dr. Mackay, from the Dublin Botanic Garden. The root was brought from the Sydney Botanic Garden (under the name of *B. grandiflora*) four years ago by Lord Walter Butler, to the Countess of Carrick, who presented it to Dr. Mackay. It appears to have been introduced to Sydney from Hunter's River, whence we have native specimens in the Herbarium gathered by the late Lady Parry. We further possess specimens from Port Macquarrie, gathered by Mr. Backhouse in 1836, and still finer ones gathered by the late Mr. Bidwill at Wide Bay, North-east Australia, by Mr. Bynoe, from near Sydney.

W.Fitch del. et lith.

Vincent Brooks Imp.

Tab. 4820.

TRICHODESMA Zeylanicum.

Ceylon Trichodesma.

Nat. Ord. Borragineæ.—Pentandria Monogynia.

Gen. Char. Calyx 5-partitus v. profunde 5-fidus, sæpe accrescens, lobis e basi lata nunc auriculata attenuatis. *Corolla* calyce vix longior, tubo late cylindraceo, fauce nunc fornicata, interdum ad sinus intrusa, lobis e basi lata sæpius acuminato-subulatis et tunc æstivatione dextrorsum convolutis. *Stamina* tubo corollæ inserta, sæpius limbo patente exserta; *antheris* filamento multoties majoribus, in conum conniventibus, dorso plus minus villosis, apice sæpius longe subulatis et dextrorsum contortis. *Pollen* subsphæricum. *Nectarium* nullum. *Ovarium* 4-loculare, ovato-acutum aut depressum, subquadrilobum. *Ovula* ex angulo superno pendentia, anatropa. *Stylus* filiformis. *Stigma* subsimplex. *Nuculæ* 4–1, basi clausæ, columnæ centrali quadrangulari ventre toto adnatæ. *Semen* obovoideum, funiculo brevissimo pendens, exalbuminosum. *Radicula* supera, cotyledonibus ovalibus brevior.—Herbæ *nunc basi suffrutescentes, Asiaticæ et Africanæ* (*Australasiæ*) *erectæ, ramosæ*, pilis *nunc basi tuberculatis.* Folia *alterna aut opposita, sessilia, integra.* Pedicelli *laterales, florem subæquantes, hispidi, in racemos dispositi.* Flores *pro ordine majusculi. Alph. De Cand.*

Trichodesma (§ Cynoglossoides) *Zeylanicum;* caule erecto parce setoso, foliis oppositis subsessilibus oblongo-lanceolatis haud attenuatis supra sparse setosis subtus junioribus pubescentibus et parce setulosis, pedicellis patentim hispidis lateralibus longis unifloris in racemum dispositis, cal. lobis ovato-lanceolatis villosis. *A. De Cand.*

Trichodesma Zeylanicum. *Br. Prodr. Nov. Holl. p.* 496. *Lehm. Asperif. n.* 149. *Roem. et Sch. Syst. v.* 4. *p.* 69 *et* 753. *A. De Cand. Prodr. v.* 10. *p.* 172.

Borago Zeylanica. *Linn. Mant.* 202. *Jacq. Ic. Rar. v.* 2. *t.* 314. *Burm. Fl. Ind. v.* 41. *t.* 14. *f.* 2.

Trichodesma Kotschyanum. *Fenzl. in Pl. Kotsch. p.* 542, *et Pl. Schimp. v.* 2. *p.* 625.

Our plant, from which the accompanying figure is taken, was raised from seeds gathered by Mr. Drummond in Western Australia, in about south lat. 27°; and that zealous botanist, to whom the plant was quite new, has stated in his journal—"A fine plant belonging to *Asperifoliæ* appears in great abundance and perfection on the sand-banks in the sheltered bed of the Irwin river;

it grows to be six or eight feet high, with numerous branches, which terminate in panicles of large, bright-blue, Borage-like flowers. The anther, style, and stigma are, at the time of flowering, covered by a curious calyptra, formed by five scales, which rise from the back of the anthers at the mouth of the tube of the corolla, free at the upper half and spiral, coming to a sharp point, firmly united to each other by interlaced cilia. The style comes in contact with the pollen of the anthers in passing up through this covering, but ultimately rises above this calyptra, forcing open the spiral portion, which, as soon as it has passed, closes on the style and stigma. The plant is perennial, with a sort of woody stem five or six inches in diameter (circumference?) near the ground. It rises readily from seed, and would be a great ornament to the gardens and shrubberies of Perth." This proved to be, as was suspected, a *Trichodesma*, Br.; and the *T. Zeylanicum* at this point of Australia attains its southern limit. Mr. Brown found it in Tropical Australia, and upon this species established his genus. It has been further gathered on the north-west coast of Australia by Mr. Bynoe (Voyage of the Beagle), at Port Curtis by J. Macgillivray, Esq., then in H.M.S. Rattlesnake, and by Mr. Fraser at Moreton Bay, in about the same latitude in Eastern Australia that the Irwin is on the west.* In all the warm parts of India this species is abundant, as well as in Madagascar, Abyssinia, and even in French Guiana. We have only reared a few plants in pots in a warm greenhouse, comparatively of small size; and if they ripen seed, we shall try in the open air, where they would probably flourish in summer, and greatly improve in the size of the flowers, as well as of stem and foliage.

Descr. An erect *plant*, with perennial root, and probably perennial *stem* in the tropics, everywhere piloso-hispid, and frequently with white concretions at the base of the large setæ; but the nature of the hairs is very variable on different plants, so that Mr. Brown was led to make the remark:—"Planta polymorpha præsertim strigarum et pubescentiæ copia." *Branches* terete. *Leaves* lanceolate, varying much in width in different individuals, tapering at the base, but sessile. *Racemes* terminal, leafy, few-flowered, drooping. *Calyx* of five, deep, lanceolate, acuminated lobes, as long as the corolla. *Corolla* rather deep and fine blue, with five small white areolæ or spots at the base; the shape is infundibuliform, the lower part of the tube contracted, above spreading, cup-shaped, in which cup the stamens are sunk; the

* Another species, as it is considered, is the *T. sericeum* of Lindley, gathered by Major Mitchell in the subtropical interior, and by Mr. Collie at Flinders Bay, South-west Australia. It has altogether a different clothing to the whole plant, pubescenti-appressed and silvery, rather than rough with hispid hairs and tubercles.

segments of the limb five, spreading, subrotund, almost aristate at the point. *Anthers* five, arising from the mouth of the tube, sessile, erect, each linear-subulate, very hairy, cohering by the intertexture of the long lateral hairs; the apices are spirally twisted. *Ovaries* four, sunk into a large fleshy disc or expansion of the base of the style; the latter is very slender. *Stigma* obtuse.

Fig. 1. Pistil. 2. Corolla laid open. 3. Inside view of a stamen :—*magnified.*

W.Fitch del et lith

Tab. 4821.

EPIPOGON Gmelini.

Gmelin's Epipogon.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Flores resupinati, pedunculis brevibus non contortis sed bracteatis insidentes. *Perianthii laciniæ* exteriores subæquales, patentes; duæ interiores exterioribus similes. *Labellum* erectum (superum) trilobum, lobis lateralibus parvis patentibus, lobo terminali maximo, integerrimo, concavo et punctis elevatis notato, basi in calcar inflatum et adscendens desinens. *Gynostemium* oblongum, rectum, supra stigma in androclinium magnum, profundum et apice truncatim dilatatum. *Anthera* stipitata sed androclinio inserta, subrotunda, gibba, antice mucronulata, bilocularis, loculis longitudinaliter dehiscentibus. *Pollinaria* duo, oblonga, caudiculata, caudiculis supra basin pollinariis affixis, basi junctis, sub anthesi reflexis et proscollæ solutæ adglutinatis. *Pollen* sectile. *Staminodia* obsoleta. *Proscolla* magna cordata, emarginaturæ androclinii supra stigma adhærens. *Stigma* valde prominens, transversim ellipticum. *Germen* non contortum, ovatum, uniloculare, multiovulatum, ovulis spermophoris tribus parietalibus affixis. ***Fred. Nees.***

Epipogon Gmelini. *Ledeb. Fl. Ross. v.* 4. *p.* 77.

Epipogum Gmelini. "*L. C. Richard, de Orchid. Europ. Annot. p.* 36."

Epipogium Gmelini. *Lindl. Gen. et Sp. Orchid. p.* 383. *Fred. Nees, Gen. Plant. Germ. cum Ic.*

Epipogium aphyllum. *Reichenb. Fl. Excurs. p.* 135.

Limodorum Epipogium. *Sw. Nov. Act. Ups. v.* 6. *p.* 80.

Satyrium Epipogium. *Linn. Syst. Veget. p.* 676. *Jacq. Fl. Austr. t.* 84.

Epipogum. *Gmel. Fl. Sib. v.* 1. *p.* 22. *tab.* 2. *f.* 2.

Even upon the continent of Europe, Dr. Fred. Nees calls this a "planta rarissima;" and it is singularly gratifying to us that the first figure of it published in this country, should be from a specimen, an undoubted native of England. It was discovered on the 9th of September of this year (1854), as related in the 'Journal of Botany' for October, by Mrs. Anderton Smith, the lady of the Rev. Anderton Smith, at Tedstone Delamere, Herefordshire. "All the specimens were found at the foot of a very steep woody bank, close to a brook; the soil very wet and stiff."

December 1st, 1854.

That it has remained so long undiscovered in this country, and that it is still considered so rare on the Continent, is due to the fact of its having no foliage and no conspicuous colours to attract attention; or it may have been passed by for some of our other colourless and aphyllous plants. Once known to be a native of Britain, other stations may be expected to be soon detected. Various localities are given in the middle and north of Europe, from Switzerland, Austria, the Caucasian Provinces, to Sweden, and westward as far as Lake Baikal, and the River Irkut, Province of Tunka. It was first known as a Siberian plant, and admirably described and figured by Gmelin (*l. c.*) under the name of "*Epipogum**," a little more than a century ago. Linnæus referred the plant to *Limodorum*, and called the species Epipogium,—quoting the synonym of Gmelin also incorrectly as *Epipogium*. This spelling of the word has by authors been adopted, till Richard, in his 'Annotationes,' as quoted by Lindley, named the plant "*Epipogum Gmelini*." At length Ledebour gave the generic name the usual termination, "*Epipogon*;" but he refers to authors whom I have not the means of consulting "Patze, Meyer et Elkan Flora d. Provinz Preussen, p. 93," in justification of the change. I have adopted the same as the most correct, and quite in accordance with that of the original author. Mr. Brown however, in his Prodromus Nov. Holl. p. 330, under *Gastrodium*, is the first of the later botanists (1810) to allude to *Epipogium* as a genus: "Affinitatem haud levem habet cum *Epipogio* (quod Limodorum Epipogium, *Sw.*), præsertim anthera decidua cum polline e particulis elastice cohærentibus, necnon stigmate ad basin columnæ elongatæ sito."—Lindley indeed places it in his Division Gastrodieæ of his fifth Tribe Arethuseæ.

It is observed by M. Schlauter, in Fred. Nees' 'Flora Europæa,' that the plant does not appear annually in the same spot, but every two years: the swollen branches of the root eventually becoming new flower-stems, and requiring two years to be perfected.

Descr. Parasitic? *Root* a mass of thick, branching, fleshy fibres, very much resembling that of *Corallorhiza innata*, the apices of the branches often swollen (said to be incipient flower-stems). *Stems* a span or more high, arising from a thickened branch, or portion of the root, swollen a little above the base, and there articulated; the rest of the stem is erect, terete, of a pale reddish or tawny colour, speckled with red, of a fleshy or almost waxy texture, and sheathed with three or four membranaceous, inconspicuous scales, terminating in an erect *raceme*

* "*Epigogum* dixi, quia barba (by which he means the labellum) hujus floris inverso ordine disposita est." *Gmel.*

of four to five or six moderately-sized *flowers*. *Pedicels* short, not longer than the small fleshy *bracts*. *Sepals* and *petals* all directed downwards, but curved forwards, narrow-lanceolate, nearly equal, pale sulphur-yellow. *Lip* superior; it may be described as ovate in general form, of a thick and fleshy texture, the ground-colour white, three-lobed; the lateral lobes small, ovate, obtuse, moderately spreading, the middle lobe large, suddenly reflexed, acute, having a cavity (and externally a tubercle corresponding with it a little below the apex); the whole upper surface studded with soredia, or small rough prominences, arranged in lines, and of a rose-colour; the base beneath is prolonged into a large pouch or blunt *spur*, as long as the ovary; this is white, tinged with purple. *Column* rather short, terete, and somewhat gibbous below, apterous above, flattened in front, and bearing the *stigma*. *Anther-case* terminal, subhemispherical, erect, two-celled. *Pollen-masses* two, tapering into slender stalks, which are attached to a white triangular gland. *Ovary* straight, not twisted, short, three-lobed, nearly turbinate, yellowish, streaked with pale red.

Fig. 1. Front view of a flower. 2. Side view of a labellum, with the spur. 3. Column and anther. 4. Pollen-masses :—*magnified.*

W Fitch del. et lith.

Vincent Brooks Imp.

Tab. 4822.

CRESCENTIA macrophylla.

Large-leaved Calabash-tree.

Nat. Ord. Crescentiaceæ.—Didynamia Angiospermia.

Gen. Char. emend. Calyx deciduus, bilabiatus, lobis integerrimis. *Corolla* subcampanulata, tubo elongato, fauce magna ventricosa, limbo inæqualiter 5-fido vel crenato aut fimbriato-laciniato. *Stamina* 4, cum rudimento quinti. *Antheræ* biloculares, loculis divergentibus. *Discus* glandulosus, ovarii basin cingens. *Stylus* elongatus. *Stigma* bilamellatum. *Ovarium* uniloculare, multi-ovulatum. *Fructus* globosus, ovatus vel ellipsoideus, cortice lignoso, spurie 2-locularis, intus pulposus. *Semina* plurima. *Albumen* nullum. *Embryo* magnus.—Arbores *vel* frutices *arborescentes Americæ tropicæ*, foliis *alternis solitariis vel fasciculatis, simplicibus vel trifoliolatis*, pedunculis *e trunco ramisve ortis*, corollis *rubentibus, virescentibus, vel virescentibus purpureo et flavo variegatis. Seem.*

Crescentia *macrophylla;* arborea, glaberrima, foliis alternis solitariis omnibus simplicibus obovato-lanceolatis breviter acuminatis versus basin longe cuneatis integerrimis, nervo (unico) utrinque acuto, petiolis valde incrassatis, corrolla (virescente) campanulata, tubo curvato ventricoso, limbo subregulari fimbriato-laciniato, lamellis stigmatis fimbriatis, fructus . . .

Crescentia macrophylla. *Seem. in Hook. Journ. of Bot. and Kew Misc. v.* 6. *p.* 274.

Ferdinandea superba. *Hort. Germ.*

At present there are cultivated in the Royal Botanic Gardens at Kew the four species of which, according to our recent revision, the genus *Crescentia*, as far as we know it, is composed. Of these, two (*C. alata*, H. B. K., and *C. cucurbitina*, Linn.) have been raised from seeds received at various times from South America; the third (*C. Cujete*, Linn.) has been in cultivation in several gardens, for a great number of years; and the fourth (*C. macrophylla*, Seem.) was imported, not long ago, from the Continent, where it is generally known under the name of *Ferdinandea superba*. A glance at the Botanical Magazine figure (Tab. 4822) and description, however, will at once show that it has nothing to do with either *Ferdinandea* or *Ferdinandusa* of Pohl, a Rubiaceous genus, or with *Ferdinanda* of Lagasca, belonging to *Compositæ*, or with *Ferdinandezia* of Ruiz and

Pavon, a well-known genus of *Orchideæ;* but is, as far as we may venture to say without having seen the fruit, a true species of *Crescentia.* Its native country is still unknown; but, judging from the habit of the plant, we think it must be Tropical America. *Crescentia macrophylla* must, on account of its fine foliage, rendering it what German gardeners term a "Blattpflanze," be regarded as a desirable acquisition to our hothouses, and we have no doubt that it will soon make its way into almost every horticultural establishment.

Descr. The largest of the plants cultivated in the stoves of the Royal Botanic Gardens at Kew is about seven feet high; but we have received information that, in the Botanic Garden at Schöneberg, near Berlin, there are specimens growing which measure more than twelve feet in height, making it probable that this species attains the size of a tree. The *petioles* and young *branches* are purple; and the *leaves*, which are alternate, simple, obovate-lancet, with a short acumen, and cuneate at the base, measure occasionally fifteen inches in length, and in the broadest part from two to three inches across. The *peduncles*, growing out of the old wood, are about one and a half inch, and the calyx one inch, long; both *calyx* and *corolla* (the latter being greenish) are furnished with glandular dots. The *style* and the *stamens* are as long as the tube of the corolla. The *ovary* is unilocular. The ripe fruit is still unknown. *Seemann.*

Fig. 1. Lower portion of corolla, showing the four fertile stamens, and the one rudiment of the fifth. 2. Glandular disc surrounding the ovary, style, and stigma:—*all slightly magnified.*

tch del et lith.

Vincent Brooks Imp.

Tab. 4823.

NYMPHÆA Amazonum.

Amazon Water-Lily.

Nat. Ord. Nymphæaceæ.—Polyandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4257.)

Nymphæa *blanda;* glaberrima, foliis suborbiculato-cordatis integris vel magis minusve sinuato-dentatis lobis obtusis subincumbentibus petiolis infra folium annulo villoso instructis, filamentis exterioribus subpetaloideis omnibus fertilibus, antheris exappendiculatis, sepalis petalisque æquilongis obtusis, stigmatis processubus (tot quot radii) longissimis teretibus clavatis erecto-incurvis.

Nymphæa Amazonum. *Mart. et Zuccar. Abhandl. der Math.-Phys. Classe der Bayersch. Akad. v.* 1. *p.* 363. *Walp. Repert. Bot. Syst. v.* 1. *p.* 107. *Lehm. über die Gattung Nymphäer, n.* 48. *Planch. in Ann. Sc. Nat. 3me série, tom.* 19. *p.* 48.

Nymphæa Lotus. *Lunan, Jam. v.* 2. *p.* 271.

Nymphæa blanda? *Macfad. Fl. Jam. p.* 19.

Nymphæa fætida. *Gardn. MSS. in Herb. Braz. n.* 2477.

A very pretty night-flowering species of Water-Lily, which has been sent by W. T. March, Esq., of Spanish Town, Jamaica, to Mr. Moore, of the Glasnevin Botanic Gardens, Dublin, under the name of *N. nocturna*. It was not surprising that that gentleman should consider it to be a new species, seeing that it possessed so remarkable a structure, as seen in the large club-shaped processes of the stigma, and which till lately seem to have been altogether unnoticed,* or most imperfectly described. I at once saw that the specimens obligingly sent by Mr. Moore corresponded with Guiana ones in my Herbarium, which I had with some doubt referred to *N. blanda*, Meyer, Fl. Essequeb., a species of the same locality, but miserably described,—for he

* Lunan, in his very imperfect 'Hortus Jamaicensis,' describes his *N. Lotus* (assuredly not of other authors) as having "from each crena of the stigma a short, compressed, incurvated filament, with a clavated summit;" whence I have been led to infer he here intends our plant rather than *N. ampla*, which it has been generally considered to be.

December 1st, 1854.

takes no notice of the club-shaped processes, and compares the species with the *N. nitida*, Sims, in Bot. Mag. t. 1359 ("cui inter omnes maxime affinis"),—a Siberian plant, and probably a mere form of our *N. alba*. Yet, singular enough, he gives, as a synonym, *N. glandulifera* of Rodsche (I know not where described), so named in all probability on account of the presence of these large club-shaped glands or processes, but of which Meyer says, "Nomen Rodscheio, *stigmatis radiis pro glandulis habente*, huic stirpi impositum, quia ex errore prodiit, rejecimus." Thus, by unintentionally confessing his own blunder, he leads us to believe in the presence of these bodies. Meyer probably mistook them for an inner series of stamens. M. Planchon's third section of *Nymphæa*, HYDROCALLIS, is mainly distinguished by their presence, and includes seven species, all tropical American; among them the *N. Amazonum* of Martius and Zuccarini, which differs from the *blanda* in little save the presence of a submembranaceous hairy ring at the top of the petiole, just below its insertion on the leaf. We refer our plant, then, to that, rather than to *N. blanda*, which is destitute of that ring, and must leave it for future investigation to determine how far the character is constant.

DESCR. Our plant can be described in few words. *Leaves* suborbicular, cordate, obtuse, coriacco-membranaceous, entire or sinuato-dentate, glabrous, bright-green above, usually reddish beneath, the sinus at the base very deep, the lobes large, obtuse, generally slightly overlapping; the length in our specimen little more than four inches, but they often attain three or four times that size. *Petiole* terete, purple, having at the summit, just below the insertion upon the leaf, an evident hairy or villous ring. *Flower* very fragrant, rather small, between three and four inches in diameter, opening at about eight or nine in the evening. *Sepals* four, yellow-green, purple at the base, and often streaked with purple in interrupted lines, oblong, obtuse. *Petals* scarcely shorter than the calyx, yellowish-white, about twenty-five; outer ones green on the back; inner the smallest. *Stamens* about as many as there are petals; outer ones with somewhat petaloid filaments; inner linear. *Anthers* linear, scarcely appendiculate. *Stigma* yellow, downy, with about twenty-two rays, and from beneath each ray arises a clavate fleshy body, almost an inch long, curving over the top of the stigma, and collectively forming a crown around it.

Fig. 1. Ovary, with its crown of club-shaped processes. 2. Inner stamen. 3. Outer stamen:—*magnified.*

We have given up so much space to the endeavour to clear up some of the difficulties attending the study of the genus *Blandfordia*, that it is scarcely necessary to enter into any lengthened descriptive matter on this particular species. The leaves are long and slender, very slightly rough to the touch on the edges and keel. The flowers, when living, are almost exactly campanulate, and the stamens are longer than in another species we know, a little exserted, and arising from the edge of the very small contracted portion of the tube near the base. The ripe fruit is remarkably acuminated. Dr. Mackay's finest specimen had the flower-stalk three feet and a half high, and in all had fifteen flowers upon it: it should be treated as a greenhouse plant.

Fig. 1. Flower with the campanulate portion of the perianth removed. 2. Pistil. 3. Immature fruit. 4. Transverse section of the same:—*magnified.*

Fitch del. et lith.

Vincent Brooks Imp.

Tab. 4824.

ONCIDIUM INCURVUM.

Curved Oncidium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Perianthium explanatum. *Sepala* sæpius undulata, lateralibus nunc sub labello connatis. *Petala* conformia. *Labellum* maximum, ecalcaratum, cum columna continuum, varie lobatum, basi tuberculatum v. cristatum. *Columna* libera, semiteres, apice utrinque alata. *Anthera* semi-bilocularis, rostello nunc abbreviato, nunc elongato rostrato. *Pollinia* 2, postice sulcata, caudicula plana, glandula oblonga.—Herbæ *epiphytæ, nunc pseudo-bulbosæ.* Folia *coriacea.* Scapi *paniculati vaginati, rarius simplices.* Flores *speciosi, sæpius maculati, rarius albi. Lindl.*

Oncidium (§ Euoncidium) *incurvum;* pseudo-bulbis ovatis ancipitibus utrinque 3–4-costatis di-triphyllis, foliis ensiformibus acutis, scapo elongato racemoso-paniculato, sepalis lineari-lanceolatis undulatis liberis, petalis conformibus incurvis, labelli laciniis lateralibus rotundatis nanis intermedia subrotunda concava acuta, crista ovata depressa dimidia inferiore lineata superiore tricostata, columna subaptera. *Lindl.*

Oncidium incurvum, *Barker in Bot. Reg.*, 1840, *Misc.* 174. *Lindl. Bot. Reg.* 1845, *t.* 64.

A well-marked species of a most extensive genus, first introduced to our Gardens, as appears from the 'Botanical Register,' by Mr. George Barker of Birmingham, but no locality is given for the species. We are enabled to state that it is a native of Mexico, whence it has been sent by Percy W. Doyle*, Esq., Minister Plenipotentiary in that city, to his brother, Colonel North, at Putney, in whose stove it flowered in October 1854, and from whose plant our figure was taken. The nearest affinity of the species is perhaps with *O. ornithorhynchus*, but it wants the long beak to the anther-case.

Descr. *Pseudo-bulbs* ovate or oblong, compressed and ancipitous, with about three elevated ribs on the flattened sides; the younger ones bearing a pair of leaves at the base of the pseudo-

* It was to this gentleman we were indebted for the "jumping" or "moving" seeds; for an account of which, see our Journal of Botany for the present year (1854), p. 304.

bulb, and a pair, rather larger, terminating it: these *leaves* are linear-ensiform, rather acute, channelled at the base. *Scape* from an angle of the pseudo-bulb and from within the base of the leaf, erect, flexuous, one and a half foot long, jointed, sheathed with scales at the joints. *Panicle* moderately large; *branches* spreading, constituting *racemes* of flowers. *Sepals* and *petals* nearly uniform, spathulato-lanceolate, spreading, undulated, the latter moderately incurved, all of them white, blotched with reddish-purple. *Labellum* three-lobed; two lateral lobes (at the base) small, patent, obtuse; intermediate lobe dilated at the extremity, where it is subreniform; the colour white, blotched with purple; the disc at the base crested and tuberculated. *Column* short, moderately winged. *Anther-case* hemispherical. *Pollen-masses* as in the genus.

Fig. 1. Flower, from which the sepals and petals are removed:—*magnified*.